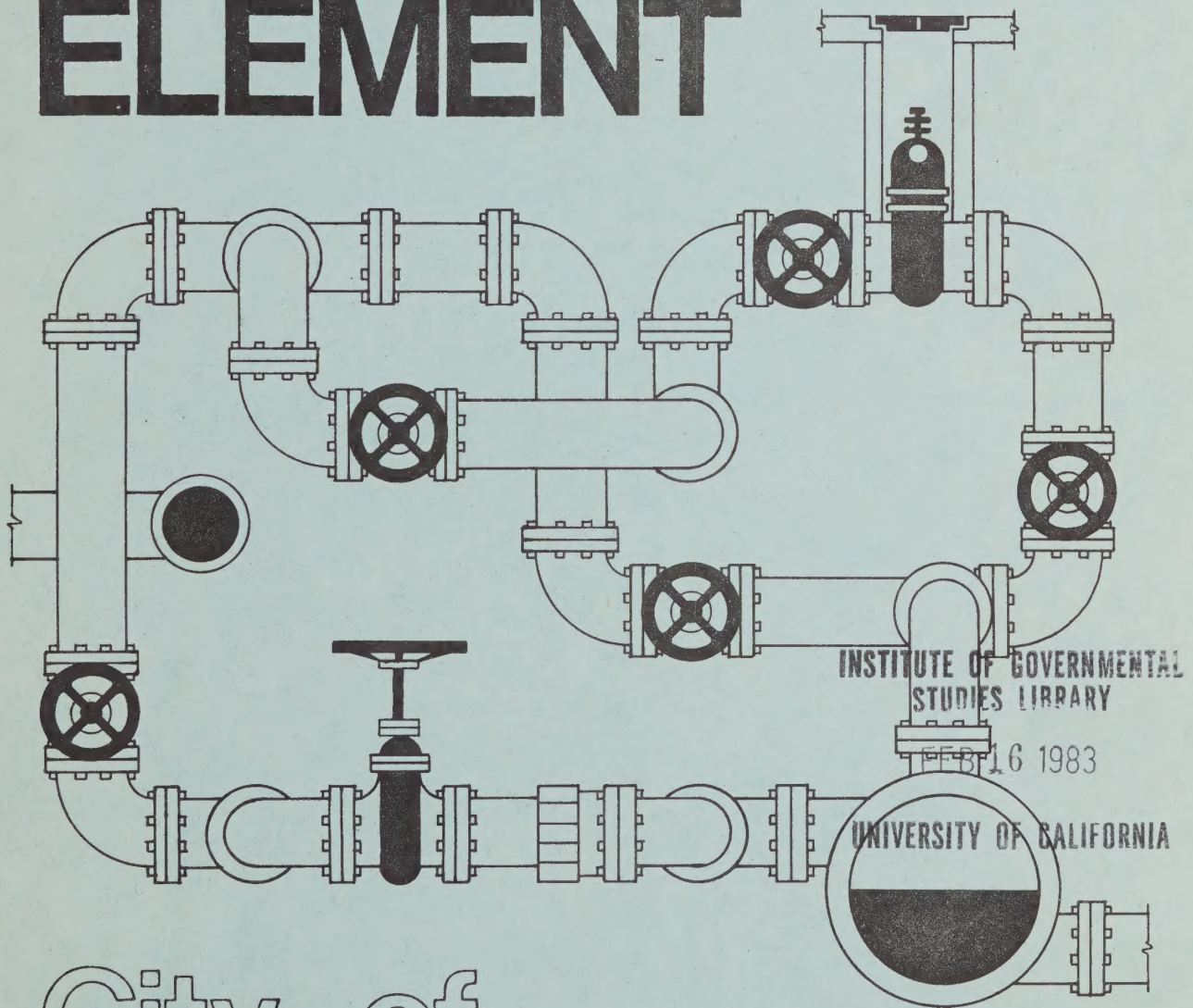


ND

# COMMUNITY FACILITIES ELEMENT



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City of  
Huntington Beach



may 1981

**CITY OF HUNTINGTON BEACH**

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83 01040

# COMMUNITY FACILITIES ELEMENT

HUNTINGTON BEACH GENERAL PLAN

James W. Palin, Director  
Department of Development Services

City of  
Huntington Beach



may 1981



PLANNING DEPT.

MAY 6 1981

P. O. Box 190

Huntington Beach, CA 92648

RESOLUTION NO. 4992

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF  
HUNTINGTON BEACH AMENDING THE GENERAL PLAN BY  
INCLUDING THEREIN A COMMUNITY FACILITIES ELE-  
MENT

WHEREAS, Government Code section 65303 permits the inclusion of a public services element showing general plans for sewerage, refuse disposal, drainage, and local utilities, and rights-of-way, easements, and facilities for them; and

A public building element is also permitted, showing locations and arrangements of civic and community centers, public schools, libraries, police and fire stations, and other public buildings, including their architecture and the landscape treatment of their grounds; and

The Department of Development Services has prepared a Community Facilities Element, combining the contents of the above-named elements; and

A public hearing on such Community Facilities Element was duly conducted before the Planning Commission on April 7, 1981, and approved for recommendation to the City Council; and

Thereafter, the City Council, after giving notice as prescribed by Government Code section 65355, held at least one public hearing to consider said Community Facilities Element; and

At such hearing before the City Council all persons desiring to be heard were heard,

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Huntington Beach that the Community Facilities Element is hereby included in the General Plan.

PASSED AND ADOPTED by the City Council of the City of Huntington Beach at a regular meeting thereof held on the 4th day of May, 1981.

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Ruth E. Lively  
Mayor

ATTEST:

APPROVED AS TO FORM:

Alicia M. Wentworth  
City Clerk

Dulcie Abbey  
Acting City Attorney 56

REVIEWED AND APPROVED:

INITIATED AND APPROVED:

Charles A. Thompson  
City Administrator

James W. Felt  
Director of Development  
Services



STATE OF CALIFORNIA       )  
COUNTY OF ORANGE        ) ss:  
CITY OF HUNTINGTON BEACH )

I, ALICIA M. WENTWORTH, the duly elected, qualified City Clerk of the City of Huntington Beach, and ex-officio Clerk of the City Council of said City, do hereby certify that the whole number of members of the City Council of the City of Huntington Beach is seven; that the foregoing resolution was passed and adopted by the affirmative vote of more than a majority of all the members of said City Council at a regular \_\_\_\_\_ meeting thereof held on the   4th   day of   May  , 19  81  , by the following vote:

AYES: Councilmen:

MacAllister, Finley, Bailey, Mandic, Kelly

NOES: Councilmen:

None

ABSENT: Councilmen:

Thomas, Pattinson

Alicia M. Wentworth

City Clerk and ex-officio Clerk  
of the City Council of the City  
of Huntington Beach, California

The foregoing instrument is a correct  
copy of the original on file in this office.

Attest May 5 1981

Alicia M. Wentworth  
City Clerk and Ex-officio Clerk of the City  
Council of the City of Huntington Beach,  
Cal.

By Betty J. Tate Deputy



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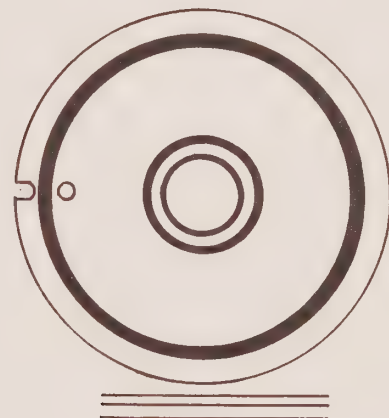
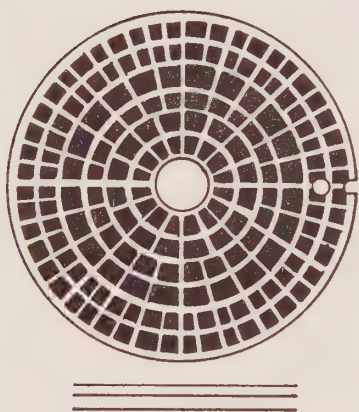
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# INTRODUCTION



## section 1

## DEFINITIONS

### **CAPITAL IMPROVEMENT:**

*Any major project requiring the expenditure of public funds, over and above annual operating expenses, including the purchase, construction and replacement of the physical assets of the community such as land, public buildings, streets, bridges, trunk sewers, storm drains, channels and parks.*

### **CAPITAL IMPROVEMENT PROGRAM:**

*A schedule of public physical improvements to be implemented over a period of time. The priority of such projects is based on the need for or importance of such improvements and the community's present and anticipated financial standing.*

### **COMMUNITY FACILITIES:**

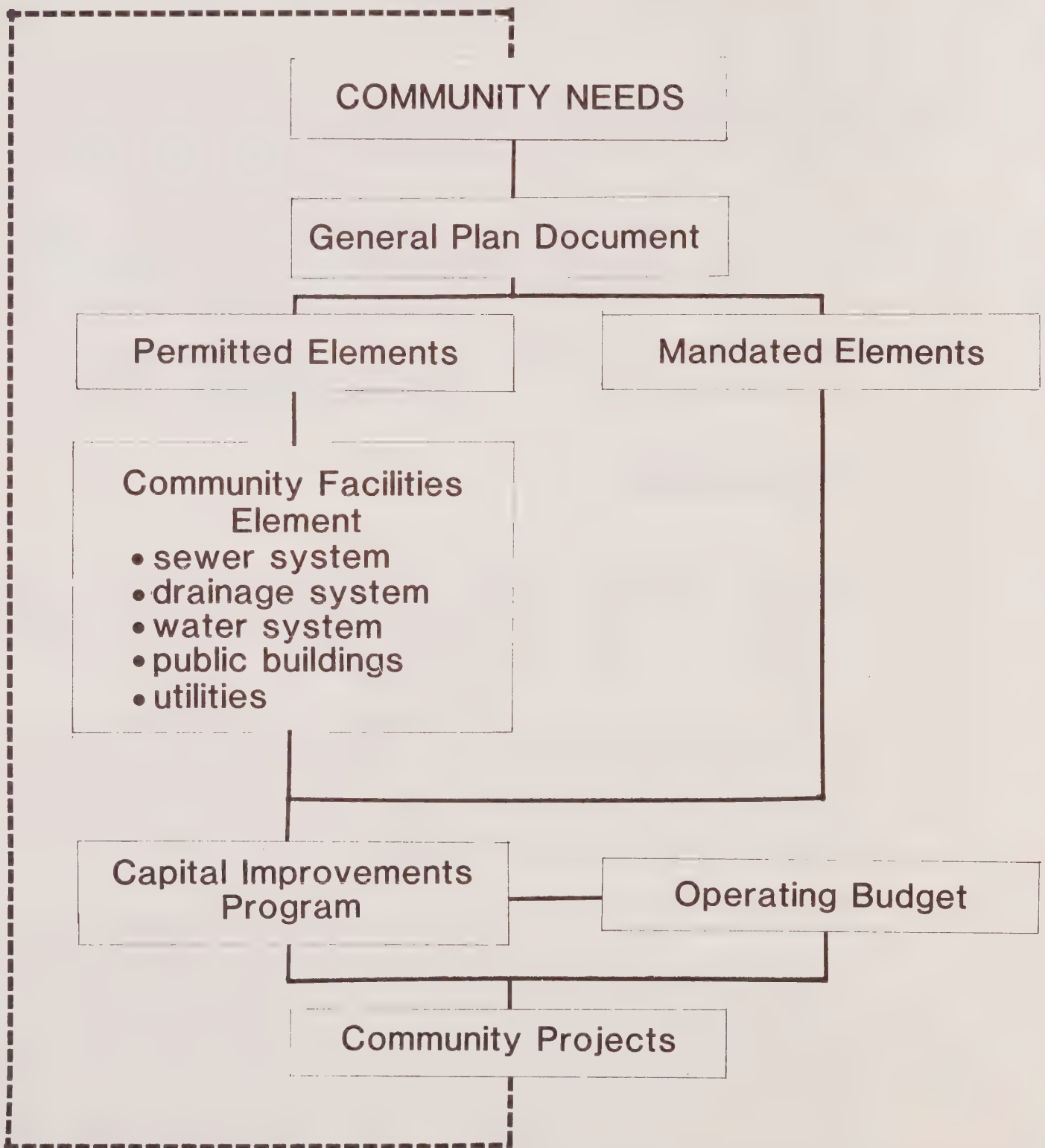
*The combination of structures and equipment that perform services to City residents such as sewerage, drainage, water supply, etc.*

# 1. Introduction

The Community Facilities Element is intended to provide direction for the provision of community facilities needed to serve existing and proposed development in the City in a coordinated and cost efficient manner. It is also intended as a basic informational document, containing pertinent data regarding the status of the City's major capital facilities.

Capital improvement decisions can represent significant policy choices for the City. Community facilities, particularly those related to health and safety, are a prerequisite to any new development. By directing the location and timing of new capital facilities, the City can impact the location and timing of new development. For example, investing public money in existing neighborhoods, such as the Downtown, may help stabilize and revitalize these areas, while investing in undeveloped areas may stimulate new development.

The availability and condition of existing community facilities may also impact the ability of the City to provide for additional affordable housing opportunities. One method of encouraging the provision of affordable housing is to allow a developer to build at some density above existing zoning in return for the provision of low or moderate cost housing. Under State law (Chapter 4.3 of California Planning and Zoning Statutes) a City must grant a density bonus of at least 25 percent more units than existing zoning allows or offer two other incentives if a developer agrees to construct at least 25 percent of the total units of a housing project for persons of low or moderate income. It is important that permitted increases in density not adversely impact the capacities of existing and planned community facilities. It should also be noted that the other incentives a City may provide to developers under this law include, among other things, the construction of public improvements such as sewers and storm drains to serve the proposed housing project and/or the waiver of utility connection charges (e.g. for sewer and water hookups).



Source: Huntington Beach Planning Division, 1980.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## Relationship of the Community Facilities Element to the Planning Process

Figure 1.1

Community facilities are costly and require continual maintenance if they are to function adequately and efficiently. Since the public monies available for construction and maintenance of community facilities are limited, they must be distributed among competing projects with careful consideration given to priorities established by the City.

This element will influence the provision and maintenance of capital facilities in several ways. Most importantly, it is intended to provide direction for capital improvement expenditures by (1) assessing the overall condition of existing facilities, (2) discussing the need for future improvements, and (3) setting forth policies regarding the relative priorities of future facilities.

An important tool that may be used to implement the policies set forth in this element is a Capital Improvement Program (CIP). A CIP is a schedule of physical improvement projects for the community, usually over a five-year period, with consideration given to the priorities and financial capabilities of the City. The amount of funds allocated to community facilities in the City's budget for any given year can be guided by the list of recommended projects in the CIP for that year. A more extensive discussion of how the CIP links the Community Facilities Element to the Budget is contained in Section 7.

The Community Facilities Element can be used by public utilities and other agencies that provide public improvements in Huntington Beach. The information and policies contained in this element may help these agencies to better coordinate their plans and projects with City-initiated projects.

This element will also provide a basis for determining General Plan conformance of proposed capital improvements as required by the California Government Code (Sections 65401 and 65402).

## 1.1 STATE POLICY AND AUTHORIZATION

Section 65303 of the California Government Code authorizes the preparation of optional general plan elements, two of which have been combined to form this Community Facilities Element:

- (1) A Public Services and Facilities Element showing general plans for sewerage, refuse disposal, drainage, and local utilities.
- (2) A Public Building Element showing locations and arrangements of civic and community centers, libraries, police and fire stations, and other public buildings.

## 1.2 SCOPE AND ORGANIZATION

The Community Facilities Element encompasses those public structures and improvements which: (1) involve major capital expenditures, (2) are closely related to land use decisions, and (3) are not addressed elsewhere in the City's General Plan. Included are:

- Sewerage facilities
- Drainage facilities
- Water supply facilities
- Public buildings
- Utilities and contractual services

Sections 2 through 6 of this element address each of these facilities individually and include a description of each system, identification of any deficiencies in the system, and an analysis of issues that might impact the timing and implementation of corrective actions. Section 7 briefly summarizes the preceeding sections and discusses implementation of community facility policies and the long term maintenance costs of additional improvements. Section 8 presents a coordinated set of policies to guide the provision of adequate facilities to serve existing and future development.

The capital improvements associated with the City's transportation and recreation facilities will be discussed in separate elements of the General Plan: the Circulation Element will be revised to include in-depth discussion of the City's transportation facilities and their relationship to other community facilities, and a Recreation Element will be prepared which will discuss the acquisition and location of parks and other recreational facilities.

### 1.3 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The California Government Code requires that general plans contain an integrated, internally consistent set of policies. The following examines the relationship between the provision of adequate community facilities and the implementation of policies contained in the other elements of the Huntington Beach General Plan:

#### 1.3.1 Land Use

Land use and community facilities are closely linked. It is important that new development not occur unless adequate public facilities can be provided to serve that development. The expected location and density of future development determines, in large part, where and when new community facilities will be needed. Conversely, the ability of the City to provide new community facilities impacts the planning of new development. The locations and densities of land uses set forth in the Land Use Element are the guide to the location of new facilities and the capacities they must be designed to serve. However, the pattern of development proposed in the Land Use Element should not exceed the ability of the City to provide public improvements as set forth in the Community Facilities Element.

#### 1.3.2 Circulation

Sewers, storm drains, water mains and electrical lines are generally located underneath the City's streets. It is efficient, where possible, to coordinate improvements to community facilities with street improvements. In constructing new community facilities it is also important that disruption to traffic be minimized. In addition, the location of public buildings, e.g. fire stations and civic buildings, must be coordinated with the existing and future status of the City's circulation system so that adequate access to these important centers is provided.

### 1.3.3 Open Space and Conservation

The design, location and construction of community facilities can adversely impact the biological and visual value of open space areas. The extension of community facilities with surplus capacities to open space areas may also encourage new development detrimental to those areas. Although opportunities are limited in Huntington Beach, natural open space areas can sometimes be utilized as community facilities. For example, a natural ravine may be incorporated into the total drainage system.

### 1.3.4 Seismic Safety

The Seismic Safety Element recognizes that community facilities are particularly important to community well being and that their ability to survive disasters is a fundamental factor in insuring public health, safety and welfare. Several policies in the Seismic Safety Element address the need to locate and construct community facilities in a manner that minimizes their susceptibility to geologic hazards.

### 1.3.5 Scenic Highways

The intent of the Scenic Highways Element is to establish and maintain visual resources along appropriate transportation routes. Arterials identified in the element should be considered in assigning priorities for the undergrounding of utility wires. Above ground facilities along these routes should be designed or screened to enhance views.

### 1.3.6 Noise

Most community facilities are not major sources of noise. Sewer, water and storm drain pumps as well as electrical generation and transmission facilities do generate some noise and should be located and designed in conformance with Noise Element policies. Public buildings, particularly libraries, need to be buffered from surrounding noise sources where possible.

### 1.3.7 Housing

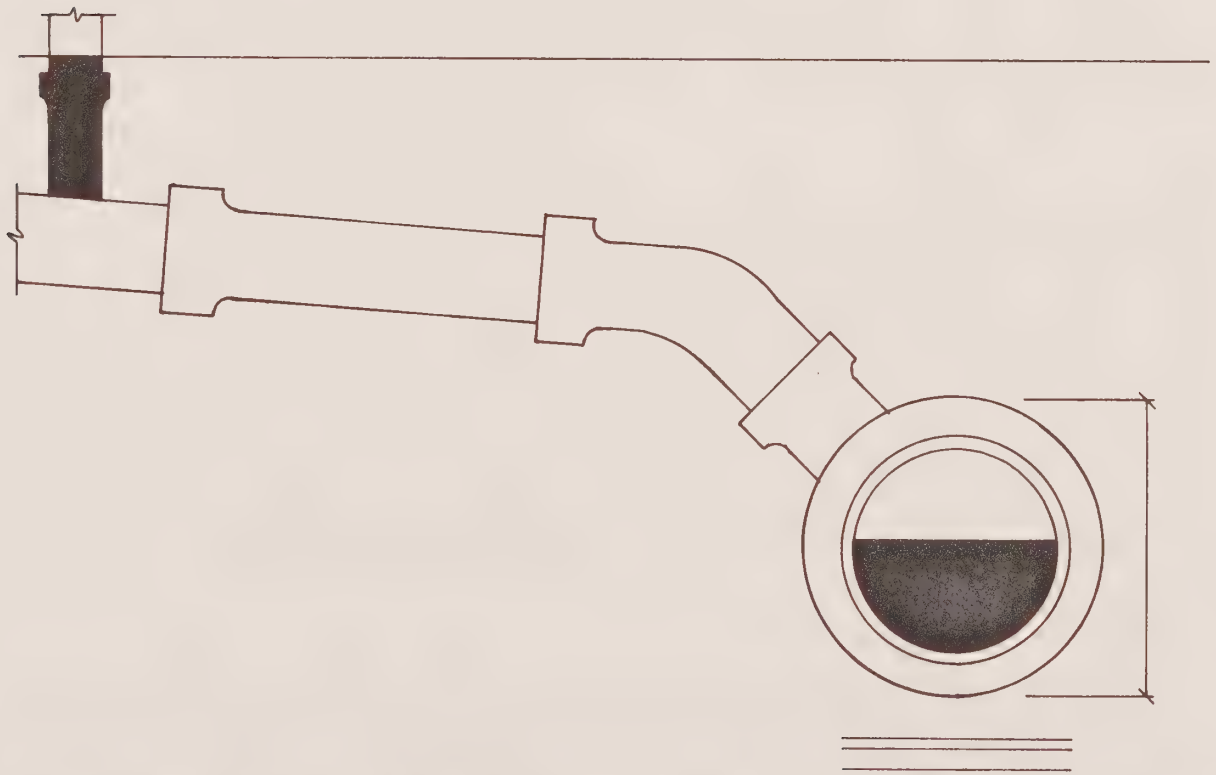
Adequate community facilities are a prerequisite to new housing development. One of the City's goals as set forth in the Housing Element is to provide a variety of housing opportunities by type, tenure, and cost for households throughout the City. The element emphasizes the provision of housing to meet the needs of low and moderate income households. As discussed earlier in this section, the City may choose to grant density bonuses to developers in order to encourage the provision of affordable housing. The ability to increase housing densities may depend upon the adequacy of existing and proposed community facilities, particularly sewerage, water and drainage systems.

### 1.3.8 Coastal

The Coastal Element delineates the type, location and density of land uses in the City's coastal zone and, thus guides the provision of facilities necessary to serve this development. Special policies related to the dredging and filling of coastal wetlands place restrictions on the location of community facilities in these areas.



# SEWERAGE SYSTEM



section 2

## DEFINITIONS

### INFILTRATION:

Movement of water into soil or other porous material (e.g. clay sewer pipes).

### INTERCEPTOR SEWER:

A sewer facility constructed to divert flow from an existing sewer line to relieve overloaded conditions.

### LOCAL COLLECTOR SEWERAGE FACILITIES:

Small sewers (generally eight inches in diameter) which serve individual buildings and developments.

### MASTER PLANNED SEWERAGE FACILITIES:

All City pump stations and trunk sewers (not including local collector facilities) expected to be needed at ultimate development of the City under the existing General Plan.

### PRIMARY TREATMENT:

A multi-step process to purify wastewater resulting in the removal of between 30 and 35 percent of the organic pollutants and up to one half of the suspended solids.

### SECONDARY TREATMENT:

A multi-step process to purify wastewater which removes between 80 and 90 percent of the organic materials and over 80 percent of the suspended solids.

### RELIEF SEWER:

(See "Interceptor Sewer")

### SEPTIC TANK:

A concrete or steel tank that receives waste from the home and provides a period of settling, during which a significant portion of the suspended matter settles out and is decomposed by bacteria; the remaining sewage is discharged from the tank into a drainage field where it is purified by micro-organisms and absorption.

### SEWAGE:

Wastewater flow from residential, commercial, and industrial establishments which flows through sewers to a treatment plant.

### SEWER:

The pipe, conduit or other physical facility used to carry off wastewater.

### SEWERAGE:

The system of sewers; physical facilities employed to transport, treat and discharge sewage.

### TRUNK:

One of a set of large pipes which form the branches of the sewerage system and receive flow from many smaller sewers.

### ULTIMATE DEVELOPMENT (OF THE GENERAL PLAN):

Also called "Ultimate Buildout"; The state in which all land in the City is developed at the maximum densities permitted by the City's General Plan.

## **2. Sewerage System**

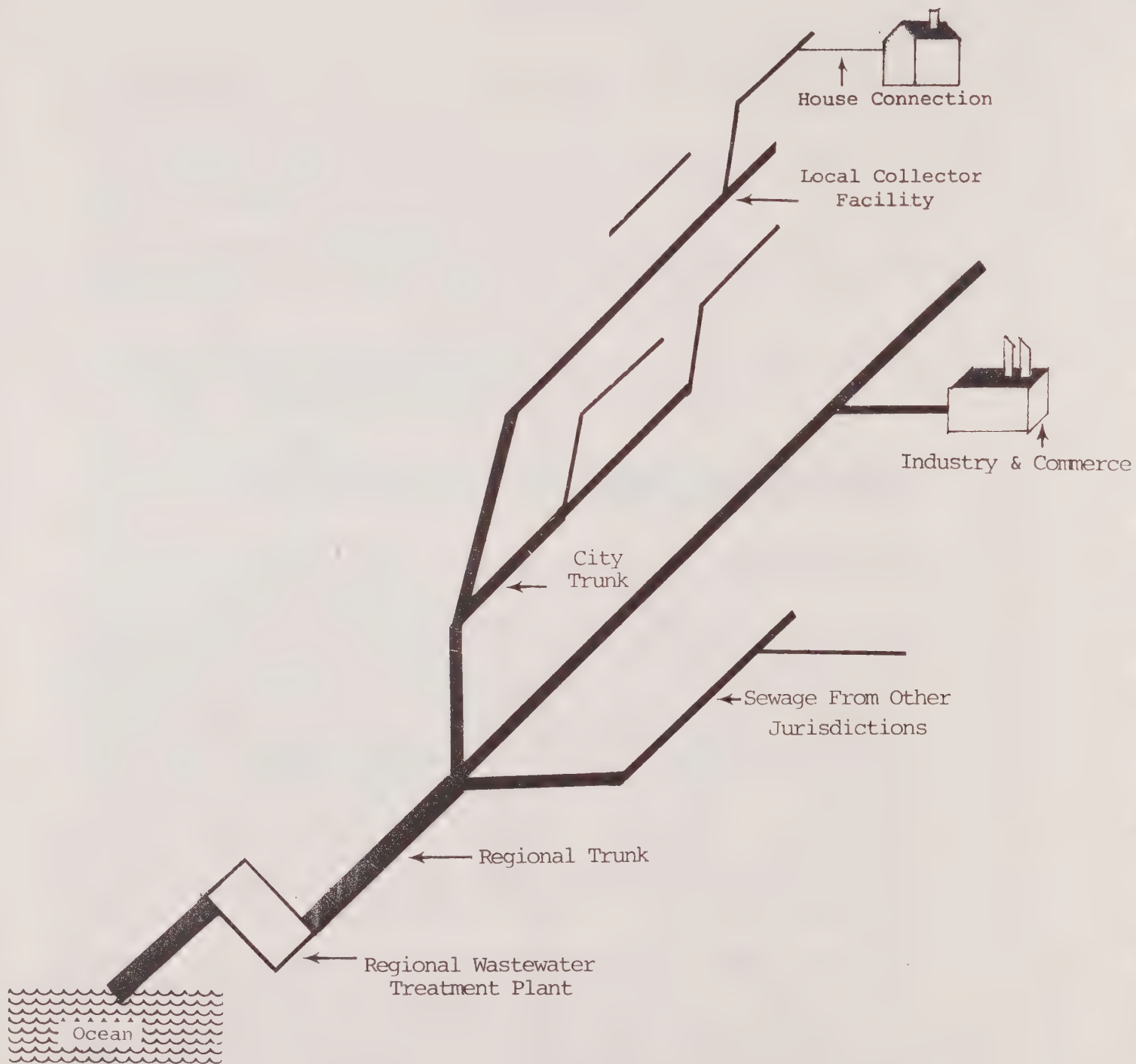
### **2.1 INTRODUCTION**

The provision of adequate public sewerage facilities in the City of Huntington Beach is an important prerequisite to residential as well as other types of development. Since private systems for individual lots (e.g., septic tanks) are not appropriate in the City, a public system must be provided. The major functions of this system are to collect and transport wastewater away from individual homes and other establishments, to treat this wastewater, and to dispose of it in a manner that is not detrimental to the public health or to the environment.

The purpose of this section is to describe the existing sewerage system that serves the City of Huntington Beach, to indicate the nature of needed improvements, and to discuss issues that the City must address regarding the provision of future sewerage facilities.

This section (along with the policies contained in Section 8) is also intended to serve as the City's Master Plan of Sewers and to fulfill the requirements of Chapter 66483 of the California Government Code which states that sewer fees for new development cannot be imposed without an adopted sanitary sewer plan. The code requires that this plan contain a map showing the location of required sanitary sewer facilities and an estimate of the total costs of constructing these facilities.

In 1978, the City retained the engineering firm of Lowry and Associates to analyze the ability of the City and County sewer systems to accommodate the sewage generated by existing and future development in the City. This study formed the basis of an interim Master Plan of Sewers which was adopted by the City Council on July 8, 1980. This element incorporates and supersedes the interim master plan. The Lowry Study, completed in July of 1979, is incorporated as a Technical Appendix to this element and is available under separate cover.



Source: Richard Tabors, et al, Land Use and the Pipe, 1976.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## Diagram of a Typical Sewerage System

Figure 2.1

Collection and treatment of wastewater in Huntington Beach is accomplished by a combination of City and County facilities which includes sewer pipes, pump stations and a treatment plant. Small sewer pipes collect wastewater from individual buildings. The sewage is then transported through a series of consecutively larger pipelines to a treatment plant where it is treated and discharged into the ocean. The larger pipelines which receive flow from many smaller sewers are called trunk sewers or trunk lines. (See Figure 2.1.)

Ideally, a sewerage system will utilize the natural force of gravity to collect and transport wastewater. Portions of Huntington Beach are relatively flat, however, and in some areas it is necessary for sewer pipes to have a steeper slope than that of the natural terrain in order to maintain adequate flow. Pipes which are located relatively close to the surface must, with distance, be placed deeper in the ground. At a certain point the cost of digging the trench and installing the pipe become so great that it is more economical to install a pump station to raise the sewage to a level where gravity sewers can again be economically utilized. Nonetheless, it is desirable to minimize the number of pump stations in the total sewerage system since these facilities incur costs for power supply and for regular maintenance.

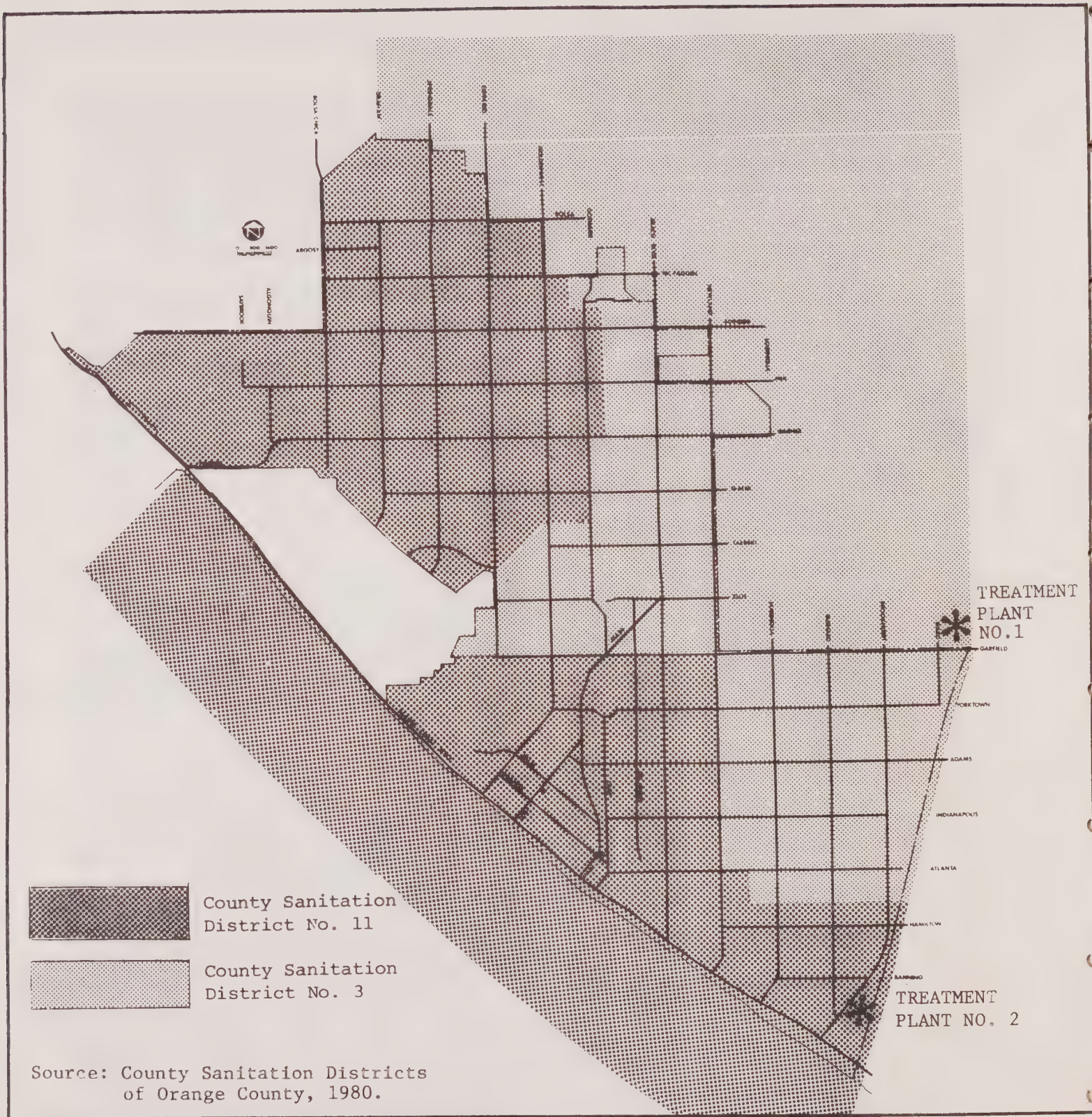
In general, the County assumes responsibility for providing and maintaining facilities which: 1) serve more than one local entity; and 2) serve a drainage area of not less than 3,000 acres. It is the City's responsibility to provide for facilities to collect sewage from local development and to transport it to County sewers. These are not hard and fast rules, however, and the ultimate decision as to which jurisdiction will have the responsibility for provision of a new sewer often depends upon a negotiating process between the County and the City.

### 2.2.1 County Facilities

The County Sanitation Districts of Orange County (CSDOC) are responsible for the financing, construction and operation of regional wastewater collection, treatment, and disposal facilities for the northwestern portion of Orange County. The CSDOC are comprised of seven districts, two of which serve the City. (See Figure 2.2.) District 11 is wholly contained within the City and serves the major portion of the City's sewage flow while District 3 serves only a small portion of the City. Each district is financed separately through taxation of those properties being sewered. The Districts also charge a sewer connection fee to new development.

Treatment of sewage generated in northwest Orange County is accomplished at two CSDOC treatment plants: Treatment Plant No. 1 located in Fountain Valley on Ellis Avenue and Treatment Plant No. 2 located in Huntington Beach, south of Banning Street between Brookhurst Street and the Santa Ana River. A pipeline connects the two plants so that sewage from both plants can be discharged through an outfall pipeline extending from Treatment Plant No. 2 five miles out to sea.

The locations of County Sanitation District facilities in the City of Huntington Beach are shown in Figure 2.4 and include three pump stations, a network of trunklines ranging from 12" to 78" in diameter and a treatment plant (No. 2) as previously mentioned.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## County Sanitation Districts in the City of Huntington Beach

Figure 2.2

In some instances flows that originate in District 11 must flow into the pipes of District 3 or vice versa before reaching the treatment plant. When this occurs, agreements between the two districts must be negotiated to share the costs of providing and maintaining the sewer on the basis of amount of flow.

Sewage generated in the City of Huntington Beach is treated at Treatment Plant No. 2. The facility is currently treating approximately 160 million gallons of sewage per day. Sewage at this plant is receiving primary treatment, only, which involves screening out large debris and settling out grit and some organic solids. It is currently being upgraded to provide secondary treatment for approximately 90 million gallons of sewage per day which will remove additional pollutants.

The 1979 Lowry Study identified a number of County sewerage facilities serving the City which may be unable to safely carry the wastewater flows generated by land uses at ultimate development of the City's General Plan.<sup>1</sup> The County's Slater Avenue pump station, located adjacent to Central Park, is currently overloaded and needs substantial rehabilitation due to its age. The Hamilton Avenue Pump Station and force main may also be overloaded at ultimate development. County trunk facilities which may be overloaded at ultimate development of the General Plan are: Atlanta Avenue Interceptor sewer, Bolsa Chica Street Trunk sewer, Edinger Avenue Trunk sewer, Goldenwest Street Trunk sewer, Newland-Delaware Trunk sewer, Ocean Avenue Trunk sewer and Slater Avenue Trunk sewer.

Sanitation District No. 11 has an adopted sewer plan which shows a number of proposed sewer trunks and pump stations located in Huntington Beach. Construction of these facilities would eliminate potential capacity problems in the County sewers which serve the City and may reduce operating costs for both the District and the City by eliminating the need for several pump stations including three operated by the City. The Coast Trunk sewer, shown on the County's Master Plan as a proposed sewer extending north along the coast from Treatment Plant No. 2, is the major facility needed to alleviate overloading of County trunk facilities in the City. Phases I and II of the Coast Trunk sewer (from County Treatment Plant No. 2 to Lake Street) were constructed in 1980. Phase III of the project, to extend the trunk line from Lake Street to Goldenwest Street, is scheduled for construction in 1981 pending adequate funding. These Phases of the Coast Trunk sewer will alleviate problems in portions of the existing Ocean Avenue Trunk sewer. Additional phases, proposed by the County, would extend the Coast Trunk sewer in a northwest direction to the Warner Avenue Relief Trunk sewer.

The District No. 11 Master Plan of Sewers also includes several lines branching off the Coast Trunk including the Newland Street Interceptor, the Lake Avenue Relief, the Edwards Avenue Trunk, and the Springdale Street Trunk sewers.

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<sup>1</sup> Ultimate development of the General Plan, synonymous with ultimate buildout, is used in this element to refer to a state in which all land in the City is developed at the maximum densities permitted in the City's General Plan.

## CITY SEWER PUMP STATIONS

1. Graham St. South of Warner Avenue at Kenilworth
2. Humboldt Drive and Wayfarer Lane (J)
3. Gilbert Lane (E)
4. Pacific Coast Highway (A)
5. Finisterre Drive (F)
6. Davenport Drive (G)
7. Pacific Coast Highway and Warner Avenue (B)
8. Warner Avenue West of Weatherly Lane (C)
9. Warner Avenue and Edgewater Lane (D)
10. Algonquin Street and Pearce Street
11. Lark Lane and Warner Avenue "Meadowlark"
12. Heil Avenue and Mycroft Lane
13. Slater Avenue and Springdale Street
14. Gothard Street and Ellis Avenue
15. Delaware Street and Franklin
16. Adams Avenue east of Brookhurst Street
17. Brookhurst Street south of Atlanta Avenue at Effingham
18. Atlanta Avenue east of Beach Blvd.
19. Pier 1 & 2
20. Edwards Street and Balmoral
21. McFadden and Dawson
22. Saybrook Lane (H)
23. Speer and Crabb Lane
24. Bushard north of Adams
25. New Britain at Adams
26. Edinger Avenue and Santa Barbara Lane (K)
27. Brighton Lane at Shoreham Lane
28. Sharkfin Lane Track No. 8040
29. Talbert Avenue east of S.P.R.R
30. Trinidad Lane
31. Adams/Beach

Figure 2.3





The interceptor sewer line along Newland Street between Pacific Coast Highway and Hamilton Avenue is scheduled for construction by the County in late 1980 and will eliminate the Hamilton Avenue Pump Station. The Lake Avenue Relief Sewer will alleviate potential overloading of the Newland-Delaware and Atlanta Avenue Interceptor sewers. The Edwards Avenue and Springdale Street Trunk sewers will alleviate problems in the City's sewers in the vicinity of Heil Avenue and Gothard Street and in the County's Bolsa Chica Street Trunk sewer, respectively.

A proposed Goldenwest Street Interceptor sewer will permit relocation of the Slater Avenue Pump station and relieve the existing Goldenwest Street trunk sewer.

Other proposed sewers shown on the District No. 11 Master Plan include the McFadden Avenue Relief, the Edinger Avenue Interceptor and the Heil Avenue Relief sewers. These facilities would eliminate potential capacity problems in the remaining County sewers in the City.

### 2.2.2 City Facilities

City sewerage facilities include 31 pump stations and roughly 300 miles of sewer pipe. Sewers are generally located in arterials, local streets, or in the case of the Downtown area, in alleys. Sewerage facilities can be classified into two types: master planned and local collector. Master planned facilities include all pump stations and City trunk sewers (excluding local collector facilities) expected to be needed at ultimate development under the City's General Plan. In general, City trunk sewers are ten inches or larger in diameter, are located in major arterials and receive flow from many smaller sewers serving a particular area. The City's master planned sewerage facilities are shown on Figure 2.4.

Design and construction of master planned facilities (trunk lines and pump stations) are the responsibility of the City subject to the availability of monies in the City's sewer fund. Developers who provide these facilities are eligible for reimbursement from the City. Section 14.44.090 of the City's Municipal Code outlines the refund conditions applicable to such reimbursement.

Local collector facilities (generally eight inches in diameter) are those which serve individual units and developments. The City requires private developers to provide these local sewer pipes. In some instances, however, deficiencies have been identified in existing local collection facilities located in areas which are completely developed. In these areas the City may have to provide for the necessary improvements.

Figure 2.5 lists the City sewerage facilities which were identified as potentially overloaded at ultimate development of the General Plan by the engineering firm of Lowry and Associates in its 1979 analysis of the City's Sewerage System. Most City sewers are expected to be adequate at ultimate development. However, a number of sewers and pump stations have been identified as potentially undersized. New facilities to serve areas of future development will also be necessary.

## POTENTIAL CAPACITY PROBLEMS IN EXISTING CITY SEWER FACILITIES AT ULTIMATE DEVELOPMENT

### Trunk Sewers

Beach Boulevard Trunk Sewer  
Edgewater Lane Sewer  
Edwards Avenue Trunk Sewer  
Orange/22nd Street Sewer  
Warner Avenue Trunk Sewer

### Local Collector Facilities

Warren Lane Sewer  
Oakmont/Edgemont/Howland Sewer  
Delaware Street Sewer  
Garfield Avenue Sewer  
McFadden Avenue Sewer  
Monroe Lane/Brush Avenue Sewer  
Newland Street Sewer  
Utica Avenue/Beach Boulevard Sewer  
Gothard Street Heil Avenue Sewer  
Ellis Avenue Sewer

### Pump Stations

Pump Station A  
Pump Station B  
Pump Station D  
Pump Station G  
Atlanta Avenue Pump Station  
New Britain Pump Station

SOURCE: Lowry and Associates, 1979.

Figure 2.5

The 1979 Lowry Study includes a list of recommended capital improvement projects for City sewers and pump stations to avoid overloaded conditions at ultimate development and to provide adequate service to new development. The total cost of constructing these improvements is estimated at approximately \$3.9 million.

City sewers in the Downtown, Townlot, and Oldtown areas were not identified as potentially deficient in the Lowry Study. Nonetheless, it must be recognized that these facilities are approximately 70 years old and in a deteriorating condition. An analysis of the sewers in the Downtown was made by the City in the spring of 1980, through the use of a specially equipped camera which photographs the insides of sewer pipes. No major obstructions or immediate problem spots were identified by this method. In digging the trench for the installation of Reach Three of the proposed coastal trunk sewer, however, the County will intercept City sewers in the Downtown. Substantial reconstruction of these pipes may be necessary before connections to the new coastal trunk can be made. Any significant new development in the Downtown may require similar pipe reconstruction activities. Construction of mid-rise buildings on consolidated parcels may require relocation of sewer pipes from the alleys into the streets. The Public Works Department estimates that necessary replacement projects may ultimately cost in excess of four million dollars.

The priority of sewer projects can be based upon a number of considerations. High priority is generally given to overloaded sewer pump stations since these are vital links in the total system and can impact sewage flow over a large area. Sewer pipeline failures and sewers flowing at near or full capacity also require immediate attention since they can pose direct hazards to public health and safety.

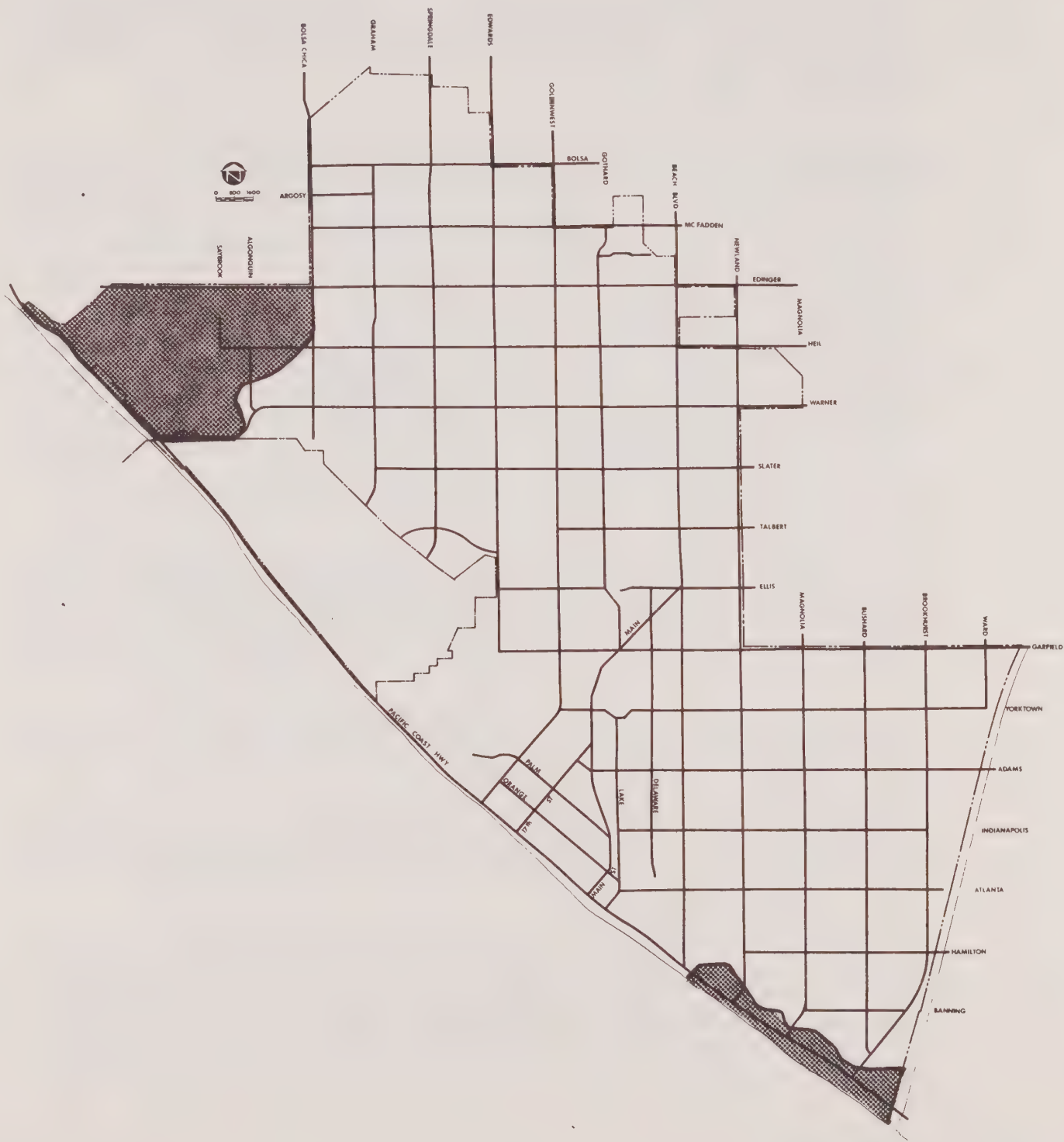
Sewer projects that coincide with street improvement projects should be undertaken whenever possible and given a high priority. This avoids the need to redig trenches in the street again at a later date.

Another objective of sewer projects is often to "bypass" and eliminate existing pump stations where it is possible to utilize the natural force of gravity. As discussed previously, pump stations are expensive to operate and maintain and raise the cost of the total system.

Lower priority can be given to sewers and pump stations that may reach full capacity at ultimate buildout of the tributary area. Although these projects might be listed in a capital improvements program, a more detailed study of their capacity at the time of projected improvement would be recommended. Low priority can also be given to new sewers to serve currently vacant property although they should be constructed at the time that development of the area occurs.

### 2.2.3 Design Criteria

The City Council has adopted, by resolution, standard plans for use by the Public Works Department in analyzing and designing public works facilities. Improvements provided for by private developers must also conform to these standards. The criteria in the City's Standard Plans are based on the



Source: Lowry and Associates, Sewer Study, 1979.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

# Areas of Potential Saltwater Infiltration Into Sewers

Figure 2.6

requirements used by other jurisdictions, on professional manuals and on staff knowledge of local conditions. The standards for sewers include numerical values and formulas for the determination of average and peak sewage flow quantities from various land uses.

It is important that criteria accurately reflect sewage generation rates in the City and provide for adequate safety margins to accommodate peak flow conditions. The sewer study by Lowry and Associates includes a current set of design criteria developed specifically for the City of Huntington Beach. These criteria are being utilized in addition to those contained in City's Standard Plans.

In designing sewers to serve industrial areas the City uses a factor of 3000 gallons per day per acre to estimate wastewater flow. There may be several industrial facilities in the City that exceed this estimation. The City may wish to investigate the feasibility of establishing a per volume fee for handling excess wastewater discharges from these industries.

#### 2.2.4 Infiltration

Infiltration is a term used to indicate a condition occurring when groundwater seeps into a sewer system through loose joints, cracks, and porous pipe material. This groundwater increases the flow that must be carried by the sewer pipes and ultimately treated by the treatment plant. Figure 2.6 shows the areas of the City where infiltration is most probable. These areas include all of Huntington Harbour and a section of coastline between Beach Boulevard and the Santa Ana River. Saltwater intrusion could be a problem in these areas because of their present or original status as tidal marshland with high soil permeability and groundwater levels affected by tidal variations. The City's Public Works Department has determined that current levels of infiltration in City sewers are generally at normally acceptable levels. However, the City should continue to periodically monitor sewers in these areas to look for unusually high flows which might indicate excessive infiltration.

#### 2.2.5 Maintenance

The City is responsible for the maintenance of all City sewers and pump stations. City sewers are relatively flat, causing solids such as coffee grounds, eggshells and grease to settle to the bottom of the pipes. The City cleans all of its sewer lines once each year to prevent clogging. The 31 pump stations also require regular maintenance such as oiling the motors and pumps and replacing worn parts. Maintenance personnel visit each station daily.

Maintenance and repair of City sewers and pump stations are performed by City employees with monies from the General Fund. Current levels of personnel and funding are adequate to perform required maintenance. As new facilities are constructed, particularly additional sewer pumps, however, it may be necessary to increase maintenance personnel or else reduce regular maintenance of existing sewer facilities.

# CITY SEWER FUND PROJECTED REVENUES

Year	Projected Revenues
1980-81	\$ 370,000
1981-82	407,000
1982-83	447,700
1983-84	492,500
1984-85	<u>541,700</u>
Sub Total	\$2,258,900
Balance as of 6/30/80	<u>1,500,000</u>
Total	\$3,758,900

SOURCE: City of Huntington Beach, Finance Department, 1980.

County

As mentioned previously, County Sanitation Districts are financed individually through taxation of the properties in each district and through sewer connection fees for new development. There is currently a lack of funds in County Sanitation District No. 11 to complete all the projects shown on that district's Master Plan. The inability of the County to make all the necessary improvements in District No. 11 could cause problems in local sewers and impact development in certain areas of the City. The City may have to restudy its sewerage plans in the future as more information about the timing and extent of County sewer projects is known. County Sanitation No. 11 is currently studying the need to establish increased fees in order to fund needed capital improvements.

City

The sewer connection fee is the primary source of funding for proposed sewerage projects. The Public Works Department, as a condition to approving an application for sewer connections, is authorized to collect a fee for the purpose of reimbursing the City for the cost of upgrading the sewer system and future replacements and extensions to this system. This fee is placed into the City's sewer fund. The current amount of the sewer fee is given in Section 14.40 of the Municipal Code and is charged on a per unit or per acreage basis depending on the size of the parcels involved.

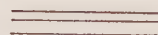
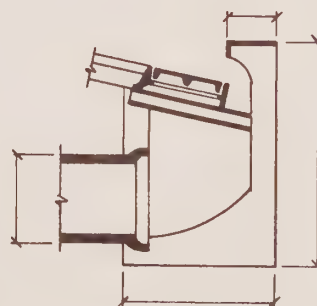
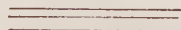
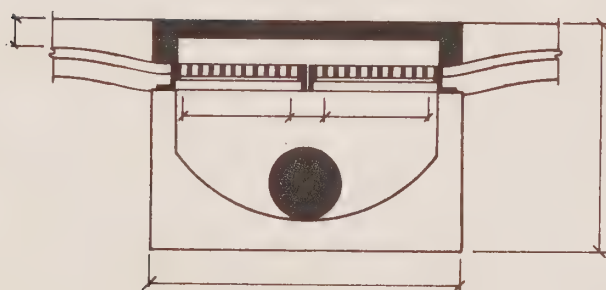
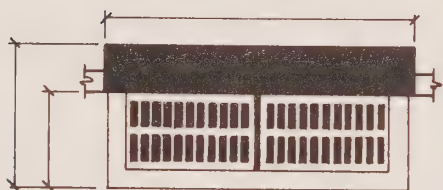
It is important that the City evaluate the sewer fee on an on-going basis and make necessary adjustments to reflect current sewer needs and construction costs.

The City's sewer fund balance as of June 1980 was approximately \$1.5 million. Projected revenues from sewer connection fees over the next five years, as shown in Figure 2.7, total approximately \$2.3 million. Combined, these monies will provide approximately \$3.8 million for sewer projects in the next five years.

These monies are expected to be adequate to fund the majority of the projects identified in the 1979 Lowry Study as being necessary to correct existing and potential capacity deficiencies and to provide adequate service to new development at ultimate buildout. As mentioned previously, the estimated cost of constructing these projects is approximately \$3.9 million. It should be noted that these projects will have to be spaced out over a period of at least five years. Also, projects identified in the Lowry Study did not include replacement of deteriorating sewers in the Downtown. The Public Works Department does not expect major problems to occur in Downtown sewers during the next five years (1980-1985). Should major problems arise during this period, additional sources of funding would most likely be required.



# DRAINAGE SYSTEM



section 3

## DEFINITIONS

### **BAFFLE:**

An obstructing device such as a wall or screen which, when constructed in a catch basin, holds back the flow of runoff long enough for debris to settle out and be trapped.

### **CATCH BASIN:**

A chamber or well, usually built at the curb line of a street, for the admission of water. (See Figure 3.1)

### **LOCAL COLLECTOR DRAINAGE FACILITIES:**

Storm drains less than 39" in diameter.

### **MASTER PLANNED DRAINAGE FACILITIES:**

Storm drains 39" or more in diameter and all pump stations which are expected to be necessary at ultimate development of the General Plan.

### **ONE HUNDRED-YEAR STORM:**

The size of storm that occurs on average once every 100 years, or in other words, has a one percent chance of occurring in any given year.

### **RUNOFF:**

Water from rain that flows over the surface of the land and ultimately reaches flood control channels or the ocean.

### **STORM DRAIN:**

A pipe or conduit which carries storm water, surface water, street wash, etc., but excludes sewage and industrial wastes.

### **STREET CAPACITY:**

The volume of runoff that can flow down a street without overflowing the curb onto the sidewalk or other property.

### **SUMP:**

A pit or low lying area in which runoff collects.

### **TEN-YEAR STORM:**

The size of storm that occurs on average once every ten years or, in other words, has a ten percent chance of occurring in any given year.

### **TRIBUTARY:**

A stream or flow of liquid feeding a larger stream or flow.

## 3. Drainage System

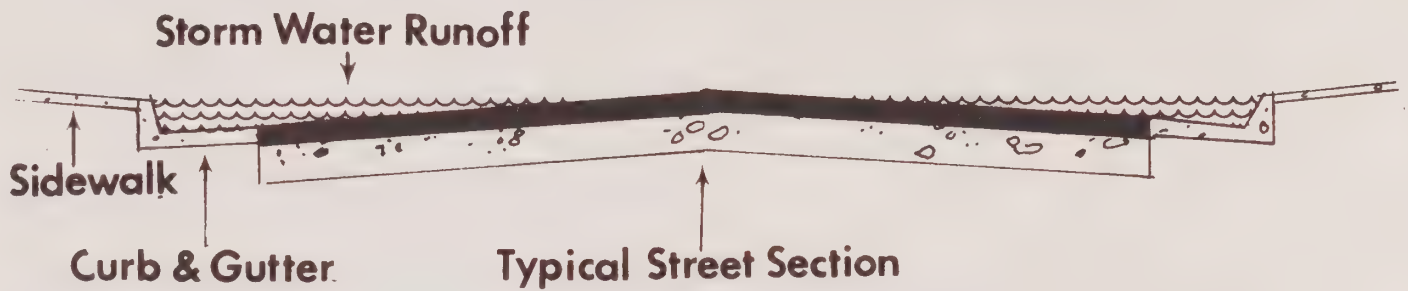
### 3.1 INTRODUCTION

The purpose of the City's drainage system is to convey water away from property and streets. The biggest source of water runoff is rainfall, however, runoff from activities such as watering lawns and washing cars is also conveyed by drainage facilities. These facilities are also part of the City's flood control system. By conveying runoff away from streets and property, drainage facilities help prevent the flooding of these areas during heavy storms.

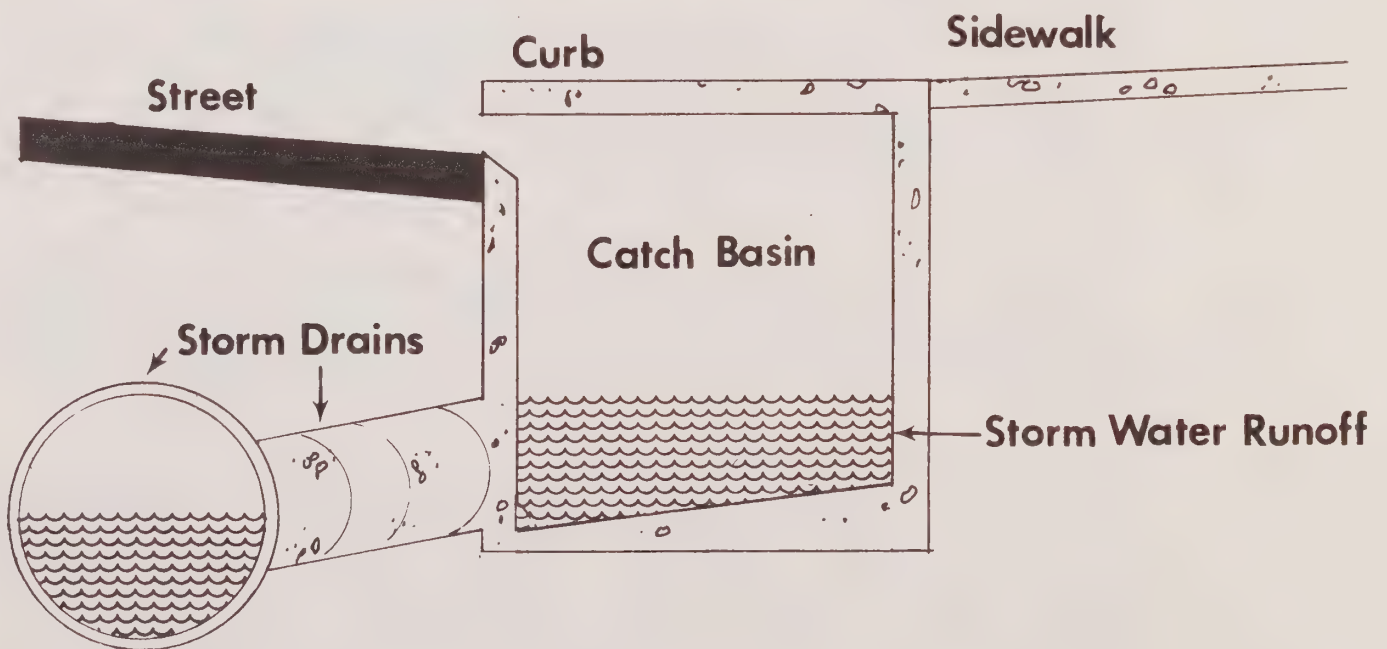
In general, runoff volumes vary according to the ground surface characteristics of the surrounding area. For example, asphalt, concrete and rooftop surfaces characteristic of urban development do not readily absorb water and produce higher volumes of runoff during a storm than natural open space and vegetated surfaces.

Runoff volumes also depend upon the size of the storm. It is useful to understand the classification system often used by engineers and planners which describes storms in terms of their magnitude and frequency. A storm that produces an amount of rainfall that is expected to occur only once every ten years is called a ten-year storm. A ten-year storm has a one in ten (ten percent) chance of occurring in any year. Similarly, a 100-year storm is the size of storm that is expected to occur once every 100 years and has a one percent chance of occurring in any year. Large storms occur infrequently but have greater runoff and potential for causing flooding and damage. The determination of what constitutes a 10-, 25-, 100-year storm, etc., for Orange County is based on statistical analysis of past rainfall records for this area.

## STREET WATER CARRYING CAPACITY



## STORM DRAIN & CATCH BASIN



Source: Huntington Beach Public Works Department, 1980.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

Facilities For Conveying  
Storm Water Runoff

Figure 3.1

Drainage facilities control stormwater runoff in order to (1) eliminate or minimize inconvenience and disruption of daily activity as a result of runoff from small storms; and (2) prevent property damage and personal injury resulting from an infrequent, unusually large storm. It would be impractical to design a system to eliminate all minor flooding which will occur during the largest storms. The system should, however, prevent flooding or undermining of buildings and essential facilities.

In the early development of the City of Huntington Beach few, if any, drainage facilities were constructed and grading did not usually elevate land improvements above the surrounding ground. Drainage facilities that were installed were generally designed with insufficient engineering and planning to correlate the facility size with expected rainfall runoff. Little attention was paid to the role of these facilities in the total system. This gave rise to conditions of potential flood damage from the relatively infrequent but large storms which occur in the Southern California area.

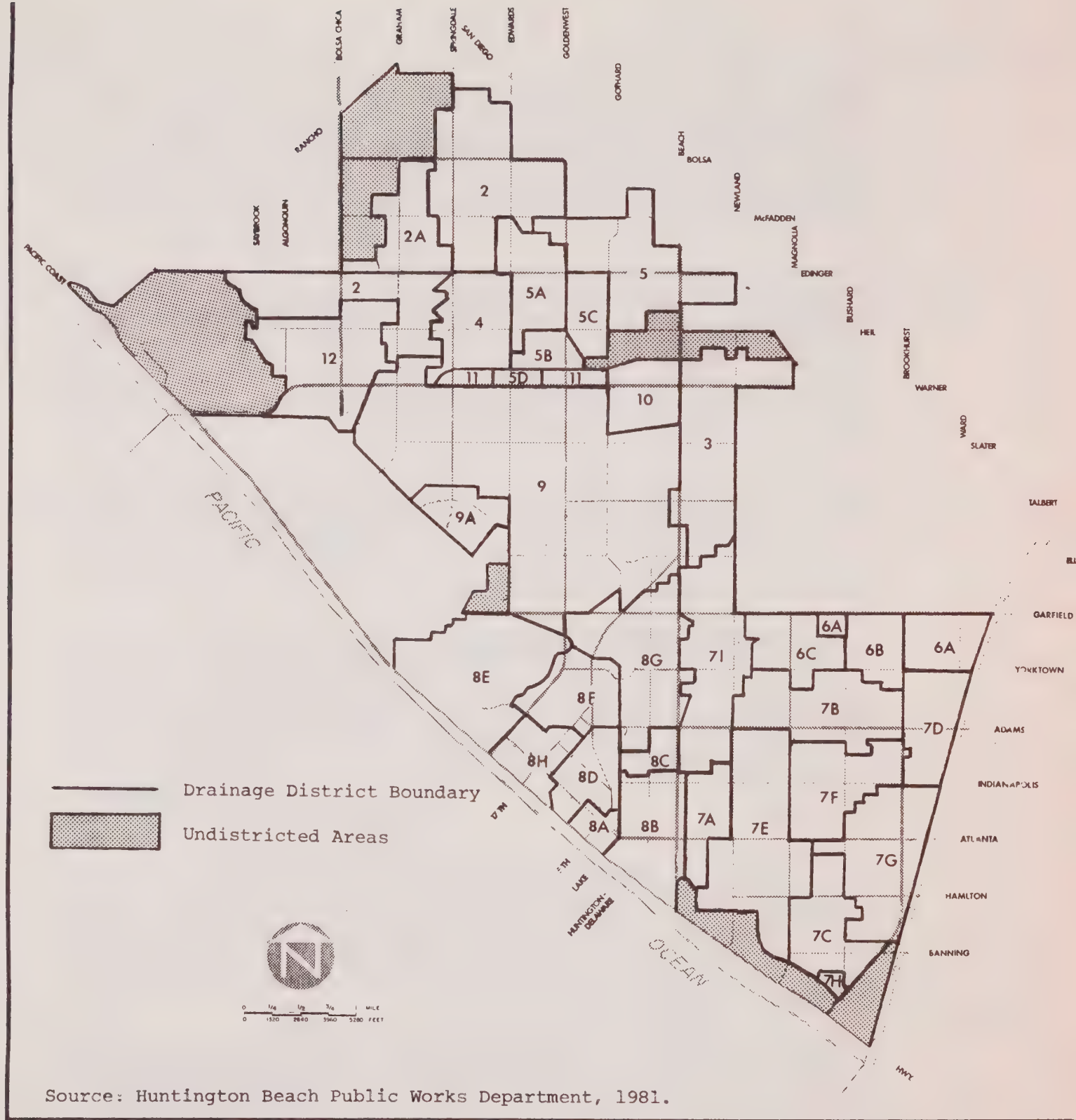
This section (along with the policies contained in Section 8) is intended to serve as the City's Master Plan of Drainage and to fulfill the requirements of Chapter 66483 of the California Government Code which states that drainage fees for new development cannot be imposed without an adopted drainage plan with a map showing the location of required drainage facilities and an estimate of the total costs of constructing these facilities.

In 1979, the City retained the engineering firm of L.D. King to study and update the City's existing Master Plan of Drainage. The major task of the study was to identify storm drain and street capacity deficiencies and recommend corrective improvements. This section incorporates and supercedes the existing Master Plan of Drainage. The L.D. King Study completed in October, 1979, is incorporated as a Technical Appendix to this element and is available under separate cover.

### 3.2 ANALYSIS

Storm drainage and flood control for the City is accomplished by a combination of local and regional facilities. As illustrated in Figures 3.1, City streets and arterials are designed to carry certain volumes of stormwater runoff. Catch basins and storm drains are constructed underneath these arterials where additional capacity is needed. Discharge from City streets and storm drains flows primarily into City or County open channels which ultimately drain into the ocean.

Ideally, a drainage system will utilize the natural force of gravity to collect and transport runoff. Because of the relatively level topography and low elevation of much of the City, however, water in most storm drains must be pumped up to the level of the open channels where it then flows by gravity into the ocean. Both the City and the County operate pump stations for this purpose. Pump stations are a vital link in the City's drainage system and require a power supply and regular maintenance in order to operate.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## City Drainage Districts

Figure 3.3





### 3.2.1 County Facilities

The Orange County Flood Control District is responsible for maintaining a system of regional flood control channels, generally defined as those which serve more than one jurisdiction and/or areas of 500 acres or greater. The county's regional facilities are designed to carry greater quantities of storm water runoff than the local facilities, which serve smaller drainage areas.

The county flood control system in Huntington Beach consists of the Santa Ana River channel, nine open earthen channels and one pump station, shown in Figure 3.2. The large open channels ultimately drain at four general locations: the mouth of the Santa Ana River, Bolsa Bay, Huntington Harbour and Anaheim/Sunset Bay.

The County's drainage facilities are master planned to accommodate a 100-year flood. According to the County's Environmental Management Agency (EMA), however, these facilities as currently designed will only protect streets and structures from a 25-year flood. The inability of regional facilities to accommodate runoff from a 100-year storm places those areas of the City which are adjacent to these channels in danger of flooding in the event of such a storm. Major improvements to the nine earthen county channels in the City are not planned for the near future.

The United States Army Corps of Engineers, which is responsible for the planning, design, construction and maintenance of major flood control projects, is planning large scale improvements to the Santa Ana River to enable it to accommodate flood waters in excess of a 100-year storm. As proposed by the Corps of Engineers, the project would involve construction and impacts in three counties with a total price of approximately \$870 million.<sup>1</sup> In the City of Huntington Beach, this project would involve widening the mouth of the Santa Ana River and relocating the southernmost portion of the County's Talbert flood control channel. The Corps has prepared a comprehensive report on the Santa Ana River project which has been submitted to the U.S. Congress for approval and funding. Under optimistic predictions, the improvements as recommended could be completed by the mid 1990's.

### 3.2.2 City Facilities

Drainage facilities which serve approximately 500 acres or less and are tributary to regional facilities are generally considered local in nature and are the responsibility of the City. The City is divided into 34 drainage districts which represent local runoff areas with different drainage characteristics and needs. Several vacant areas of the City are not currently in any district. (See Figure 3.3.) The City's drainage facilities include approximately 35 miles of storm drains, over 800 catch basins, 15 pump stations and four open channels. (See Figure 3.2.) City storm drains and channels flow primarily into County channels. In the Downtown and Townlot areas, however, City drain pipes pass underneath Pacific Coast Highway and empty directly onto the beach. In Huntington Harbour, stormwater drains into Harbour waterways. The Talbert and Huntington Lakes in Central Park and nearby Sully - Miller Lake act as large retention basins holding water during heavy rains to prevent large influxes of water from overloading the City's Slater Channel and pump station.

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<sup>1</sup> U.S. Army Corps of Engineers, Los Angeles District, Santa Ana River, Draft Main Report, July 1980, p. 127.

City drainage facilities are divided into two types: master planned and local. Storm drains 39" in diameter or larger and all pump stations which are expected to be necessary at ultimate development under the existing General Plan are considered to be master-planned facilities. Design and construction of these facilities is the responsibility of the City. All storm drains less than 39" in diameter are considered to be local facilities and are the responsibility of private developers and property owners.

Developers who provide master planned facilities are eligible for reimbursement from the City. Section 14.48.070 of the City's municipal code outlines the refund conditions applicable to such reimbursements. These terms provide that the City must make reimbursement if adequate funds are available within five years after construction of the improvement.

In general, the City's Public Works Department designs new drainage facilities so that during a ten-year storm: (1) one lane of travel in both directions is open on all City arterials; and (2) flood waters do not exceed the top of the curb on local streets. In "sump" or low areas where water naturally collects, new drainage facilities are designed to accommodate a 25-year storm.

It is economically impractical for the City to design its local drainage facilities to accommodate runoff from a 100-year storm, which is the minimum criteria for flood safety set by the Federal Insurance Administration. This can be accomplished, however, by elevating dwelling units so that the lower level of the structure is above the level of flooding expected during a 100-year storm. The City currently reviews the grading plans of new subdivisions and other large developments and requires that units be elevated above the level of a 100-year storm.

Adequate drainage facilities should be installed as an area is developed so that no drainage deficiencies exist at ultimate build-out. The majority of existing storm drains in the City of Huntington Beach, however, were designed for the runoff volumes predicted by formulas and criteria which reflected the state of the art at that time. The City and the surrounding drainage areas urbanized more extensively than anticipated by County and City agencies, and the paved urban surfaces created larger runoff volumes than originally predicted. In 1973, the Orange County Flood Control District published a revised Hydrology Manual to reflect these higher rainfall runoff conditions. However, because many drainage improvements in the City were built prior to this revised document, the City has a number of drainage deficiencies.

In addition, it is important to note that City drainage facilities are designed to accommodate only the water that falls in Huntington Beach. Similarly the City calculates the water level of a 100-year storm for the water which would fall in Huntington Beach only. The City is part of a larger drainage basin which covers 3,200 square miles and includes much of Orange County. It is the responsibility of regional agencies including the U.S. Army Corps of Engineers and the Orange County Flood Control District to provide drainage facilities which are adequate to accommodate runoff from all sections of this drainage basin. Rain falling outside the City of Huntington Beach is expected to flow into these regional facilities and be carried through the City into the ocean. Unfortunately,

regional facilities, including the Santa Ana River, are not adequate to accommodate desired flows. Because of this discrepancy portions of the City adjacent to regional channels may experience flooding during a 100-year storm.

Street and storm drain deficiencies have been identified in 24 out of the City's 34 drainage districts and in two areas of the City that are not currently within a drainage district. By deficiencies, this section refers to the inability of a street or storm drain to convey the amount of runoff necessary to meet the City's flood protection standards discussed above for 10- and 25-year storms. These deficiencies are discussed in detail in the 1979 drainage study by L.D. King. Some of the deficiencies are more critical than others depending upon whether they pose a potential hazard to streets, property, or structures.

The Downtown, Townlot and Oldtown areas of the City contain serious deficiencies. Recommended improvements to these areas are estimated to cost over five million dollars. These districts are predominantly developed and existing drainage fund balances are low. It is the intent of the City to encourage revitalization of the Downtown and surrounding areas, but serious drainage problems could impair City efforts in this regard.

All of the City's storm drain pump stations, except the Atlanta Station, require replacement of the control systems that regulate engine and pump speed. The outmoded controls now in place put undue stress on engine parts and increase the possibility of flooding in the event of a storm. In addition, ten pump stations do not have adequate pumping capacity to accommodate existing and/or projected future runoff from a 25-year storm. These are the Shields, Newland, Marilyn, Adams, Hamilton, Banning, Bolsa Chica, Slater, Scenario and Meredith pump stations. Improvements to the first four stations are particularly needed.

Significant erosion is occurring along the banks of the City's Slater Avenue open drainage channel, posing hazards to adjacent properties. Concrete lining of this dirt channel is needed to correct the erosion problem.

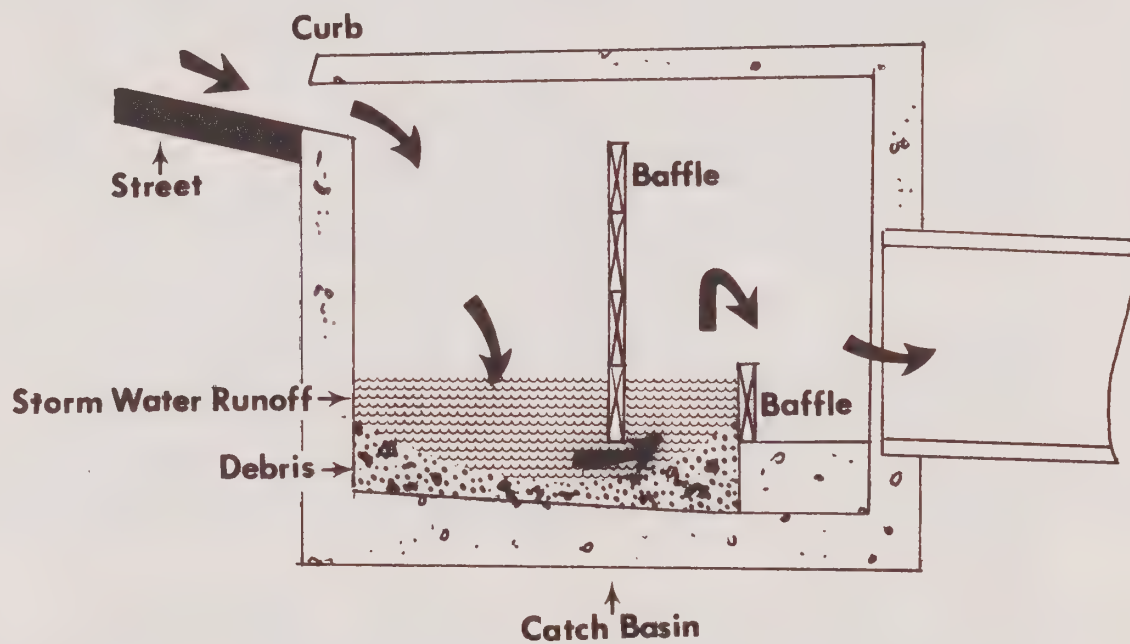
The 1979 L. D. King Study includes a list of capital improvement projects for City storm drains and pump stations to provide adequate drainage for the City at ultimate development of the General Plan. Proposed master planned facilities (storm drains 39 inches or larger in diameter and pump stations) are mapped in the L. D. King Study.

The priority of drainage projects can be based upon a number of considerations. High priority is generally given to pump stations, which are critical facilities in the total drainage system. Storm drains are only effective if the pump stations are adequate to accommodate existing runoff and are operating at optimum levels.

High priority is also given to projects which eliminate flood hazard potential to existing structures and property during 10 to 25-year storms.

Storm drain improvements are undertaken in conjunction with street improvements, when possible, to avoid tearing up the street again at a later date.

A lower priority is given to projects which eliminate minor flooding of streets. Low priority can also be given to storm drains to serve vacant property although they should be constructed at the time that development of the area occurs.



Source: Huntington Beach Public Works Department, 1980.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## Baffled Catch Basin For Debris Control

Figure 3.4

### 3.2.3 Maintenance

Storm drains and catch basins collect a wide variety of debris including grass clippings, branches, leaves, oil, litter, and large discarded items. Catch basins are cleaned at least once each year prior to the winter rainy season. Storm drains are checked before the rainy season and cleaned out if necessary. The pumps and motors which run the City's 15 storm drain pump stations are also serviced periodically.

A small number of the City's catch basins are equipped with gratings which help prevent debris from entering the storm drains. These gratings can pose hazards to cyclists and require extra maintenance since they naturally collect debris and must be cleaned periodically. Catch basins with a baffled compartment (see Figure 3.4) can also be used to trap debris without posing hazards to cyclists, although they too, must be cleaned out periodically. Their use may be most appropriate where it is desirable to keep receiving waters free of debris. Baffled catch basins have been used in the Huntington Harbour area and are successful in trapping debris if adequately maintained.

### 3.2.4 National Flood Insurance Program

The federal government has mandated that the City participate in the National Flood Insurance Program in order to continue to receive federally related financing for projects in identified flood prone areas. Under this program, federally subsidized flood insurance is available to City residents and must be purchased by persons taking out any federally insured loans (e.g., new home loan, second mortgage) on properties in identified areas.

The Flood Insurance Program consists of two phases, Emergency, under which the City is now operating, and Regular. In the Emergency phase, a uniform subsidized insurance rate was set for all flood hazard areas. (See Figure 3.5.) In the regular phase of the program, special rate maps will be issued setting different insurance rates based on varying levels of predicted flood depth and damage. The City must, at that time, adopt flood plain development criteria for new construction in identified areas to help avoid future flood damage.<sup>2</sup> According to these criteria, new residential development within the identified flood hazard boundaries will be required to have first habitable floors that are elevated above the level of a 100-year frequency flood as determined by the U.S. Army Corps of Engineers.<sup>3</sup> Units may be built over garages, basements or other non-living areas or they may be raised on fill to meet this criteria.

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<sup>2</sup> The City expects to receive final flood insurance rate maps by spring of 1981 at which time it will have approximately six months to adopt flood plain development criteria.

<sup>3</sup> In determining the level of a 100-year flood in Huntington Beach, the U.S. Army Corps of Engineers includes any water which may overflow into the City from the Santa Ana River. This differs from the City's method which has not included this regional overflow.



Source: U.S. Army Corps of Engineers, 1980.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## Preliminary Flood Hazard Boundaries

Figure 3.5

New commercial development may be raised above the 100-year flood level or may be designed so that structures are watertight with walls substantially impermeable to the passage of water. The costs of meeting these criteria may be prohibitive for some new developments. Large developments raised on fill may create adverse visual impacts and may also increase flooding of immediately adjacent low lying areas during storms.

When the Santa Ana River Improvement Project currently proposed by the U.S. Army Corps of Engineers is complete, the Federal government will issue new flood insurance rate maps. At that time, it is expected that Huntington Beach will no longer fall within a flood hazard boundary and flood plain development criteria will no longer apply.<sup>4</sup>

### 3.3 PROJECT FUNDING

Drainage projects are funded primarily through drainage fees. The City collects drainage fees from property owners prior to issuing a building permit or recording a subdivision map in any drainage district and deposits this fee into a "planned local drainage fund" for the purpose of defraying the costs of constructing master-planned facilities in that district. It is important that the drainage fees accurately reflect current drainage needs and costs.

As mentioned previously, the City's 34 drainage districts represent local runoff areas with different drainage characteristics and needs. The amount of the drainage fee is based on the estimated costs of master-planned facilities and varies for each drainage district. According to state law (Government Code Section 66483) fees collected from development activities in any one district can only be used to construct facilities in that district.

The City faces a serious problem in the funding of needed drainage facilities. The total amount of projected revenues from drainage fees over the next five years is approximately five million dollars. (See Figure 3.6.) The approximate cost of completing the projects identified in the 1979 L. D. King Study as being necessary to provide adequate drainage to the City at ultimate development is approximately 30 million dollars.

The fact that drainage fees cannot be transferred among districts poses additional problems. Lower priority projects in one area of the City may be constructed due to availability of monies while higher priority projects in other districts may go unfunded.

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<sup>4</sup> As mentioned earlier in this section, the Santa Ana River Project has not been approved by Congress as of this writing and improvements are not expected to be complete until after the mid 1990's.

# CITY DRAINAGE FUND PROJECTED REVENUES

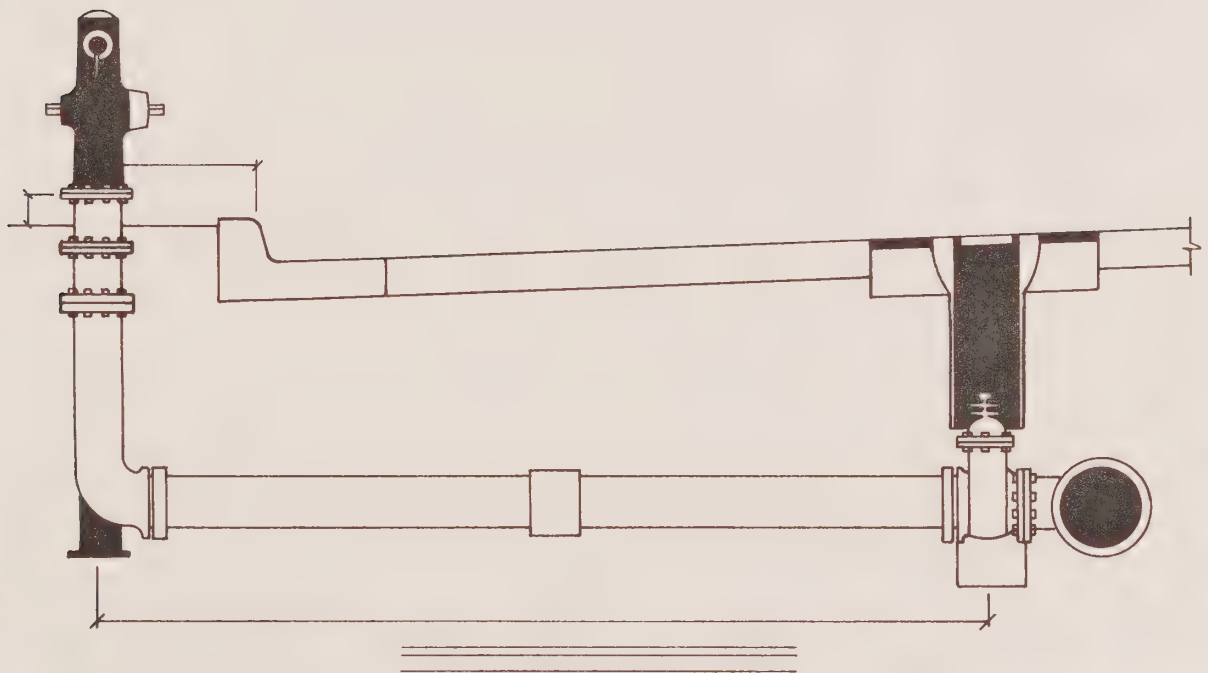
Year	Projected Revenues
1980-81	\$700,000
1981-82	770,000
1982-83	847,000
1983-84	931,700
1984-85	<u>1,024,870</u>
Sub Total	4,273,570
Balance as of 6/30/80	<u>1,011,971</u>
Total	\$5,285,541

SOURCE: City of Huntington Beach, Finance Department, 1980.

In many districts, current funds are inadequate to cover needed improvements. If little or no vacant acreage remains, only a small amount of additional drainage fees can be expected from new development. In approximately 19 of the City's drainage districts, development of the remaining vacant acreage will not generate sufficient fees to cover needed improvements for the district.



# WATER SYSTEM



## section 4

## DEFINITIONS

### ACRE - FOOT:

*The volume of water that would cover one acre of land to a depth of one foot.*

### AQUEDUCT:

*A man-made channel for carrying a large quantity of flowing water.*

### EMERGENCY RESERVE:

*Reservoir and groundwater capacity required to supply the City in the event that water from outside sources is interrupted.*

### FIRE FLOW:

*Rate of flow in gallons per minute needed to confine and control a major fire in a building or the physical confines of an area.*

### FIRE RESERVE:

*That portion of the total water reserve intended to supply water for fighting a serious fire.*

### GRID:

*A network of uniformly spaced perpendicular lines. This is the basic pattern used for layout of the City's water pipelines.*

### GROUNDWATER:

*Fresh water beneath the surface of the earth that supplies wells and springs.*

### OPERATING STORAGE:

*Reservoir capacity required for acquisition of water at a steady rate from supply sources and to release it at variable rates during the day.*

### PERCOLATE:

*To flow at a slow rate through a permeable substance.*

### RESERVOIR:

*An artificial lake where water is collected and kept in quantity for use by a community.*

## **4. Water System**

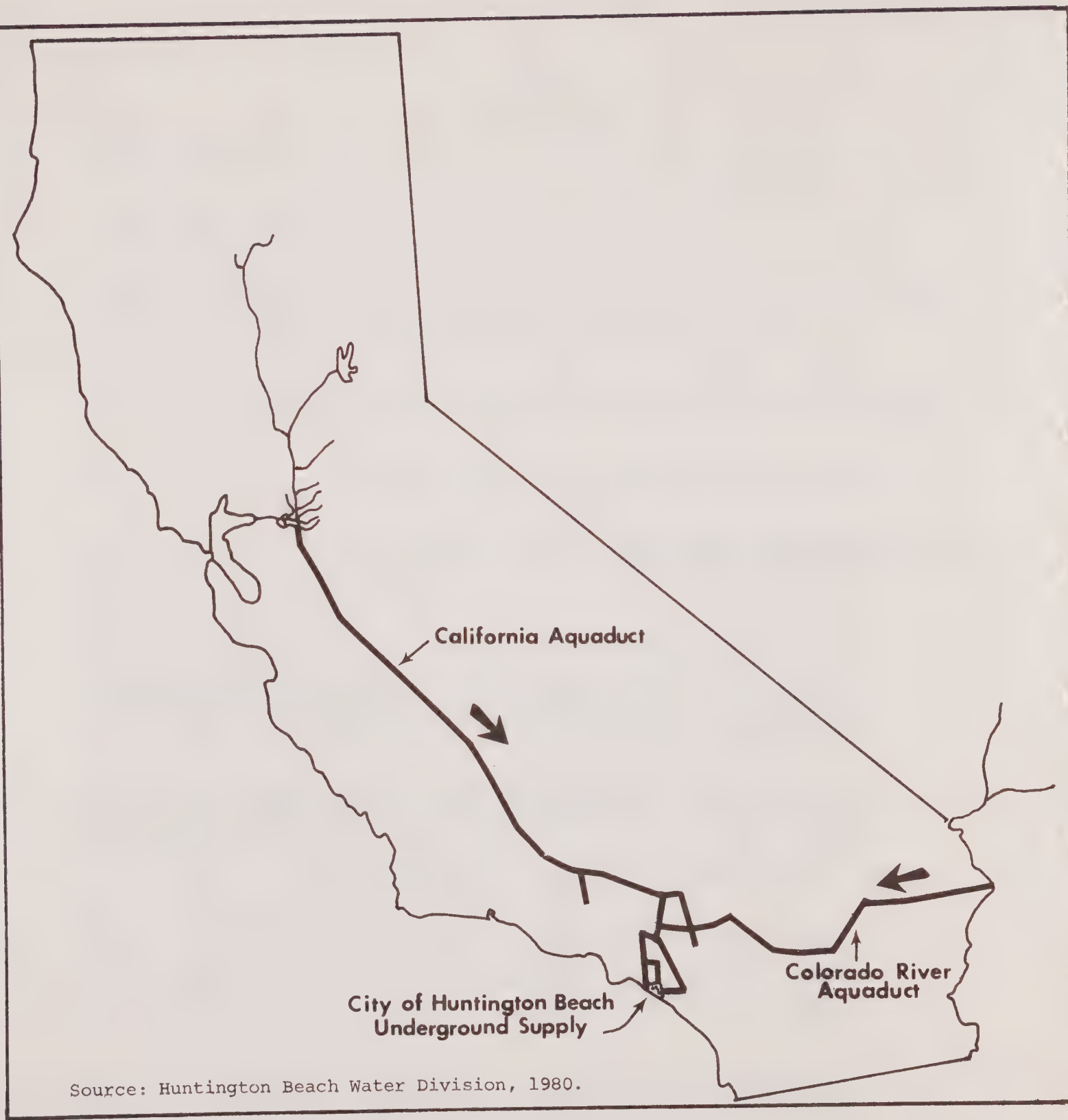
### **4.1 INTRODUCTION**

The provision of an adequate supply of water is a prerequisite to any development in the City. The water supply system must serve the demands of residents, commercial establishments, industrial processes, and fire fighting activities when necessary.

Much of Southern California, including the City of Huntington Beach, has a semi-arid climate. The region lacks large bodies of fresh water and free flowing rivers; natural rainfall makes only a small contribution to the local water supply. For these reasons, much of the water supply for the region and the City is imported into the area from distant sources.

The Southern California Metropolitan Water District (MWD), created in 1920, imports water from the Colorado River via the 242-mile-long Colorado Aquaduct and from the Feather River in northern California via the 240-mile-long California Aquaduct. The City of Huntington Beach is not a member agency of MWD but does obtain water from this source through other agencies.

From 1930 to the mid-1950's, the majority of the City's water needs were provided for by a private entity called the Southern California Water Company. In 1955, the citizens of Huntington Beach approved a bond issue which enabled the City to purchase the private water company. Soon thereafter, with the passage of additional bonds, the City undertook major improvements to the system to enable it to accommodate anticipated future growth. Most notably the City helped to construct pipelines to bring water from Metropolitan Water District (MWD) reservoirs into the City, thereby enlarging the potential supply.



HUNTINGTON BEACH CALIFORNIA  
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## Water Supply Sources

Figure 4.1

Today the water system is owned by the City and operated through the Water Division of the Public Works Department. Customers are charged for water use at a rate approved by the City Council and set at the level necessary to cover operating expenses (water purchase and treatment, power supply, personnel salaries) and capital improvements.

There are also 14 small private water companies in the City that serve older residential developments. The largest of these, Boulevard Garden Water Company, serves 83 residences. Water supply for these companies is by private wells.

The intent of this section is to describe the existing City water system, indicate the nature of desired improvements and discuss issues that need to be addressed regarding the provision of future water supply facilities.

In 1978, the City retained the consulting firm of Engineering Science to develop a computer model of the City's water system to analyze the existing performance of the water system and to recommend improvements. This study, completed in May 1979, is incorporated as a Technical Appendix to this element and is available under separate cover. The computer model can also be used to analyze the performance of the City's water system at ultimate development of the City's General Plan; however, this analysis has not been performed to date.

## 4.2 ANALYSIS

### 4.2.1 Existing Facilities

Unlike sewerage and drainage systems, the City's water system does not depend upon the force of gravity to move water through the pipes. Rather, water entering the system (i.e., from wells and reservoirs) is pumped or "boosted" into the system at the point of entry. Water pipes are designed to flow at full capacity and at a constant pressure of 70-75 pounds per square inch (psi) at all times. One area of the City (Reservoir Hill, in the vicinity of Goldenwest Street and Clay Avenue) is at a substantially higher elevation than the rest of the City and additional pumping is utilized to maintain the required water pressure in this area.

The City's water system can be described in terms of three major components: (1) supply, including wells and purchased water; (2) storage, including reservoirs and groundwater reserves; and (3) distribution, including transmission lines and other water pipes.

In general, the City provides for supply and storage facilities and those distribution pipes which transmit water from these facilities to large areas of the City. The City requires developers to provide for the water facilities that serve individual developments.

#### Supply

The City obtains approximately 75 percent of its water from a large groundwater reserve which extends underneath the City. Eight wells varying in depth from 250 to 950 feet presently pump from this groundwater reserve into the City's system. One of these wells, HB8, is no longer in service due to poor

## AVAILABLE CITY WATER WITHDRAWAL RATES AND STORAGE VOLUMES

Water Source	Maximum Withdrawal Rate (gallons per minute)	Storage Volume (million gallons)
Peck Reservoir	13,900	16.0
Overmyer Reservoirs I and II	14,300	24.5
Groundwater Reservoir <sup>1</sup>	17,700	3,000.0 <sup>1</sup>
San Joaquin Reservoir	6,700	130.0

<sup>1</sup> For the purposes of this analysis, groundwater storage may be considered to be very large (in excess of 3,000 million gallons).

SOURCE: Engineering Science, Computer Model of City Water System, 1979.

Figure 4.2

water quality. The combined pumping capacity of the remaining seven wells is 17,700 gallons per minute. The City's wells are tapping a common groundwater basin which approximately 1,000 wells from other jurisdictions are also utilizing as a water source. This groundwater reserve is replenished partly by natural percolation of surface waters and by deep underground transfer from upstream water sources. This groundwater is also replenished by the Orange County Water District which purchases water from MWD and conveys it into spreading basins where it percolates into the earth. The Orange County Water District was formed in 1933 to protect the County from upstream water interests and to manage water quantity and quality within the basin. The District's operations are financed primarily by a replenishment assessment which is applied to all pumping wells and is currently at a level of \$30 per acre-foot of water.

The City meets its remaining water needs by purchasing water from MWD via the West Orange County Water Board and the Mesa Consolidated Water District. The West Orange County Water Board, which is comprised of the cities of Huntington Beach, Westminster, Garden Grove, and Seal Beach, maintains and operates interconnecting pipelines from MWD's Diemer Treatment Plant to the participating cities. These pipelines connect with the Huntington Beach Water system at two locations: one connection (OC 9) located at the intersection of Newland and Edinger Streets, and a second connection (OC 35) located at the intersection of Springdale and Glenwood Streets. (See Figure 4.4). A third pipeline owned jointly by the City and the Mesa County Water District delivers water to the City from the San Joaquin Reservoir operated by MWD as trustee for the City and other owners. The connection of this line (OC 44) to the City water system is at the Santa Ana River and Adams Avenue.

For economic reasons, the City currently prefers to meet increases in water demand through the drilling of new wells rather than through increased reliance on imported water. The cost of well water, including power costs, the pump tax and well amortization, is approximately \$60 per acre-foot. Water from outside sources currently costs approximately \$115 per acre-foot. The cost of imported water is expected to rise sharply in the near future due primarily to the pending renegotiation of existing water purchase agreements to reflect current electric power rates.

It is becoming increasingly difficult to find good well sites in the City and the cost of drilling and equipping a new well can exceed \$250,000, excluding land costs. The City currently has plans to construct two new water wells in 1981, one located in Sunview Park on Sher Lane south of Edinger Avenue and one located near the county flood control channel on Warner Avenue west of Magnolia Street. A third additional well is planned for construction in 1982.

### Storage

Storage facilities are necessary for the functioning of a municipal water system and are used for three major purposes: (1) operating storage; (2) fire reserve; and (3) emergency reserve.

Water is used by City residents at varying rates during the course of a day. Wells and other sources generally supply water at a fairly constant rate. Rather than match water supply and use directly, the City stores water in reservoirs for efficient daily operation and to meet peak demands. The amount stored for this purpose is called operating storage and is the reserve required to enable acquisition of water at a steady rate from supply sources and permit its release at variable rates during the day to users.

# EXISTING CITY WATER STORAGE VOLUME AND WITHDRAWAL RATE REQUIREMENTS

Type of Storage	Criteria	Required Withdrawal Rate (gallons per minute)	Required Storage Volume (million gallons)
Operating Storage	Volume equals 20% of maximum day demand	12,900	9.32
	Rate equals volume divided by 12 hours (720 minutes)		
Fire Reserve	Volume equals rate times four hours (240 minutes)	3,000	0.72
	Rate equals 3,000 gpm		
Emergency Reserve	Rate equals maximum day demand	32,400	233
	Volume equals rate times five days		

SOURCE: Engineering Science, Computer Model of City Water System, 1979.

Figure 4.3

Fire reserve is that portion of the total storage intended to supply water for fighting a serious fire. Emergency reserve is the storage required to supply the service area in the event that usual water supply is interrupted.

Water storage for the City of Huntington Beach is provided for by three reservoirs located in the City (Overmyer I and II and Peck Reservoirs), one reservoir located in the City of Irvine (San Joaquin Reservoir), and local groundwater reserves. (See Figure 4.2).

Overmyer Reservoirs I and II, located near the intersection of Garfield Avenue and Huntington Street, have a combined storage capacity of 24.5 million gallons. Peck Reservoir, located at Springdale Street and Glenwood Drive, has a capacity of 16 million gallons. Total combined capacity from these three reservoirs is 40.5 million gallons.

The City owns approximately 15 percent (130 million gallons) of the total reservoir capacity in the San Joaquin Reservoir located on Irvine Company property in Newport Beach. Use of water from this reservoir is for emergency purposes only, such as a well outage or a period of unusually high water demand.

Although the groundwater reservoir is not a reservoir "facility" in the usual sense, it functions in a manner analogous to manmade water storage facilities. The groundwater itself may be considered to be the reservoir, and the wells may be considered to be supply lines from the reservoir to the distribution system.

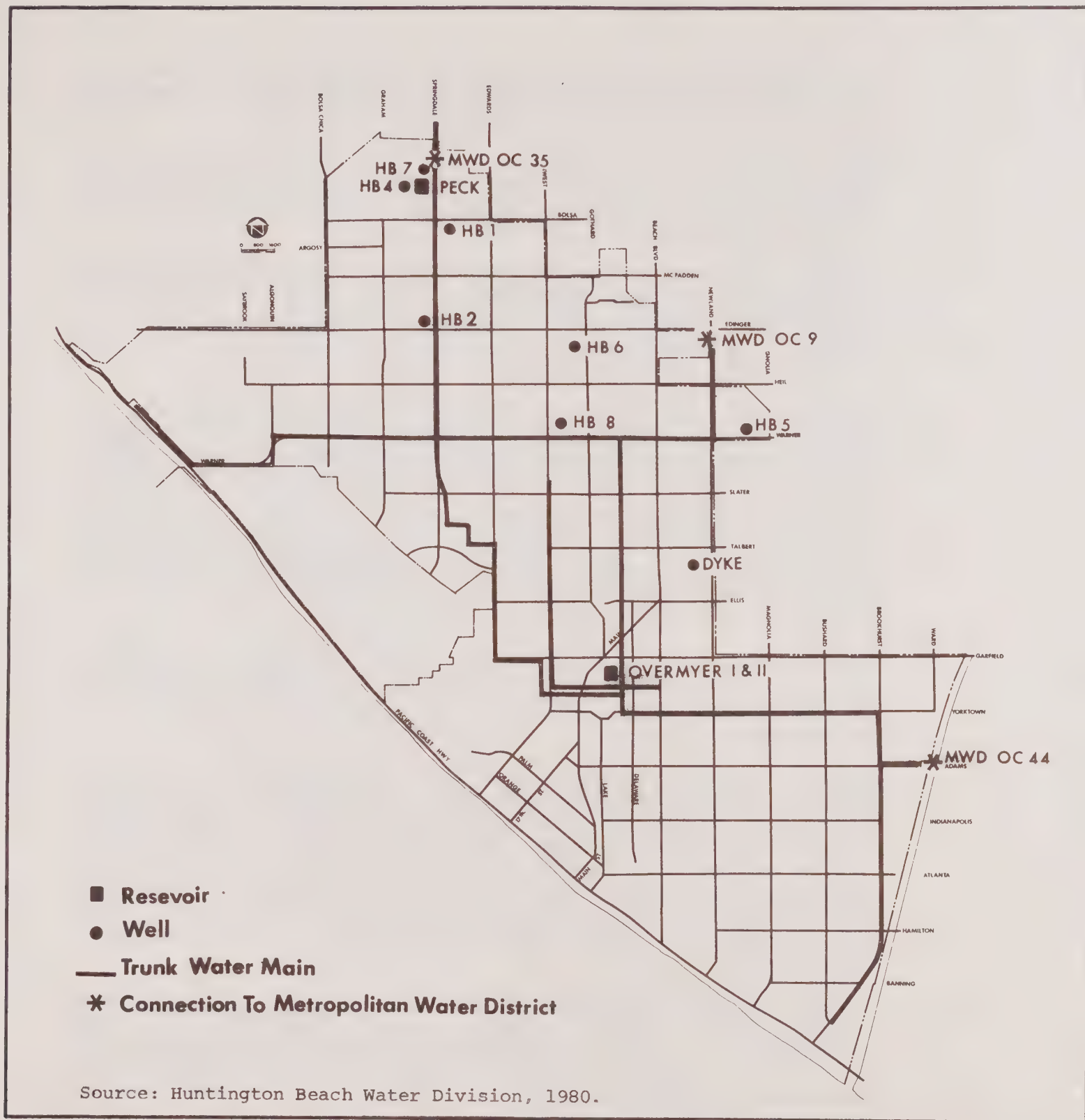
Along with the ability to store adequate amounts of water, the City must be able to withdraw, pump and transport this water to users at adequate rates. For each type of storage need there is a corresponding withdrawal rate requirement.

In its 1978 analysis of the City's water system, Engineering Science compared the City's storage and withdrawal rate needs with existing capabilities. Figure 4.3 shows the storage volume and withdrawal rates that Engineering Science considered necessary to serve the City at its present size. The City's existing facilities are generally adequate to meet current requirements. Operating storage and fire reserve needs can be met by either the Peck or Overmyer Reservoirs. In the event of a major emergency the Peck, Overmyer, and San Joaquin reservoirs in combination with the groundwater reserves can supply adequate water for the City.

The City's Water Division anticipates that a greater withdrawal capacity from existing reservoirs will be necessary to meet future peak day water requirements. This could be accomplished by improving withdrawal facilities at either Peck or Overmyer Reservoirs or both. Before proceeding with such improvements, a detailed study of future storage needs and methods of meeting those needs will have to be undertaken.

### Distribution

The City's water distribution system is designed and analyzed according to Public Works Department criteria which address per capita demand, pressure and flow characteristics, location and spacing of fire hydrants and other design considerations.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## City Water System Transmission Mains, Reservoirs and Wells

Figure 4.4

The City's 415 miles of pipeline, ranging in size from two to 42 inches in diameter, carry water from supply sources to individual water users. Transmission water mains (larger than 12" in diameter) carry water from the two MWD interconnecting pipelines, the San Joaquin Reservoir interconnecting pipeline and the City's reservoirs to large areas of the City. (See Figure 4.4.) A distribution system of water lines branches off of these large trunk mains laid out in a basic grid pattern according to a "Master Plan" originally developed by the City's Public Works Department in the 1960's. This plan provided for 12-inch water mains in all of the City's arterials.

In general, the relatively large water mains located in the City's arterials are adequate. There are, however, a few specific problem areas in the water distribution system.

Water pipes in the City's Downtown are old, undersized, and in a deteriorating condition. Many of these pipes will have to be upgraded or replaced in order to meet the demands of significant new development. The City is annually upgrading older mains (several thousand feet of pipe per year) as part of an ongoing program. However, depending on the densities of new development in this area, further improvements will be necessary.

The City's distribution system also contains a number of "dead ends" or uncontinuous loops. It is desirable for all water mains to be part of a continuous loop enabling water to approach any point in the system from two different directions. This increases the water flow and pressure throughout the system. To complete an uncontinuous loop a new water main is installed connecting the two dead ends.

Providing adequate water service to properties fronting along Beach Boulevard requires special considerations. In most arterials, water mains run underneath and along one side of the roadway. To provide new water service connections to properties fronting along the opposite side of the arterial an open trench must be cut across the roadway or a hole bored underneath it. The open cut method can disrupt traffic and leave patches of repaved surface. The bore method can only be used when it is feasible to avoid existing oil, gas and electric pipelines also located underneath City arterials. Beach Boulevard is a comparatively wide State Highway with paved surface width in excess of 96 feet. In order to eliminate the need to open cut across the highway or bore underneath for long distances, the City's policy is to provide for installation of water mains on both sides of Beach Boulevard ultimately forming a continuous parallel line between Pacific Coast Highway and Edinger Avenue.

#### 4.2.2 Proposed Projects

The Water Division of the City's Public Works Department has compiled a list of water projects for implementation over a five year period to improve water supply, storage and distribution. These projects include, among other things, construction of a new water operations building and two new wells, replacement of old cast iron pipes in the Downtown, and completion of a number of

discontinuous loops in the distribution system.<sup>1</sup> The projected total cost of these improvements is approximately 4 million dollars.

The priority of projects can be based upon a number of considerations. High priority is generally given to projects which provide for adequate water supply such as the drilling of new wells. Eliminating fire flow deficiencies and other improvements to upgrade facilities that serve existing development should also be given high priority. Water projects that coincide with street improvements or the provision of other utilities should be undertaken whenever possible. This avoids the need to redig trenches in the street again at a later date.

Completion of loops in the water system can be given priority based on the types of facilities and number of people served by that portion of the system.

Lower priority can be given to improvements which may be needed only at ultimate development of the General Plan or to new pipes which would provide service to currently undeveloped areas.

#### 4.2.3 Fire Flow

Fire flow is the rate of flow in gallons per minute needed to confine and control a major fire in a building or within physical confines of an area. Requirements can vary according to building size and height, construction materials, proximity to other buildings, use of sprinkler and other fire prevention methods in the design of the building, and use of the building.

Preliminary studies by the City's Fire Department have indicated numerous instances where water available in the system at a given point does not appear adequate to meet fire flow requirements of nearby buildings. This may be particularly true for the few older residential developments which are still served by private water companies and private wells.

The Fire Department is currently analyzing the entire City to determine the potential for fires and its ability to cope with these events. This will include a detailed report of areas and buildings which have severe fire flow deficiencies. Two basic approaches can be taken to correct existing fire flow deficiencies: (1) retrofit existing buildings and homes to render them more fire resistant (e.g., install water sprinkling systems), and (2) improve the City's water system to carry greater flows in identified areas.

If serious fire flow deficiencies are documented, improvements to the City's water system to correct these deficiencies may take precedence over other projects currently listed in the C.I.P. It is also important that the City review all new developments to ensure that future fire flow deficiencies are not created.

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<sup>1</sup> The new water operations building is discussed in Section 5, Public Buildings.

#### 4.2.4 Private Water Companies

As mentioned at the beginning of this section, there are 14 private water companies operating in Huntington Beach all supplied by private wells. In general, these private systems serve only a small number of users and are cooperatively owned. The private systems contain substandard pipe sizes and are, for the most part, inadequate to meet the City's fire flow requirements.

Because of these inadequacies, these systems have virtually no value to the City. More importantly, large expenditures would be required to bring the pipelines up to City standards. The City may wish to consider providing water service to areas now served by private water companies on the condition that the companies or the affected property owners first upgrade the systems to meet City standards and to provide adequate fire flow.

#### 4.2.5 Water Service to Other Jurisdictions

The City currently provides water service to several areas which are outside its jurisdiction. In 1965, the City bought the Sunset and Surfside Beach Water Company. A possible consideration may have been the potential City annexation of the service area. Today, the Surfside area is in the City of Seal Beach while Sunset Beach remains in the unincorporated area of Orange County.

Facilities in the Surfside area currently require improvements. Because this area is in the City of Seal Beach, it would be more appropriate for that city to authorize and provide for facilities to serve its residents by purchasing the Surfside water facilities for their appraised value.

In the case of Sunset Beach, there is no entity that could purchase and adequately maintain water supply facilities for this area, necessitating continuation of City water service to this area.

#### 4.2.6 Maintenance

The City cleans its entire water distribution system once a year by flushing water through the pipes to remove accumulation of debris and algae. Reservoir walls are also washed each year to remove mud and algae. Fire hydrants are repaired as necessary. The biggest on-going maintenance activity is servicing the large natural gas engines that run the water well pumps which require tune-ups, oiling, and replacement of worn parts.

Maintenance and repair of the City's water system are performed by City employees with monies from the water fund. Current levels of personnel and funding are adequate to perform required maintenance.

#### 4.2.7 Water Quality

Although water quality is not a direct community facility concern it can impact the nature and location of water services. For example, new water wells cannot be located in certain areas of the City (e.g., close to the ocean) because of poor water quality.

# CITY WATER FUND PROJECTED REVENUES

Year	Projected Total Revenues	Projected Revenue Available for Capital Improvements <sup>1</sup>
1980-81	\$ 6,657,000	\$ 1,811,000
1981-82	6,779,000	565,000
1982-83	7,118,000	745,000
1983-84	7,474,000	750,000
1984-85	<u>7,848,000</u>	<u>800,000</u>
Sub-total	\$35,876,000	\$4,671,000
Existing Balance (as of 6/30/80)	<u>5,686,100</u>	<u>5,686,100</u>
Total	\$41,562,100	\$10,357,100

- <sup>1</sup> Water Fund Revenues must cover the operating expenses (water purchase, power supply, personnel) as well as capital improvements. Approximately 10 to 20 percent of total water revenues can generally be allocated for capital improvements in any given year.

SOURCE: City of Huntington Beach Water Division, 1981.

Figure 4.5

The City's drinking water currently meets applicable State standards. The U.S. Environmental Protection Agency (EPA), however, can and has adopted additional standards. For example, EPA recently adopted a new standard governing the allowable concentrations of a substance known as "Trihalomethane" in drinking water, and the City is currently testing its well water to determine if this standard is being met.

In the event that water quality falls below some established standard, the City may have to decrease its use of groundwater or construct treatment facilities at individual well sites. Lack of space at existing well sites could be a constraint on the use of this latter option.

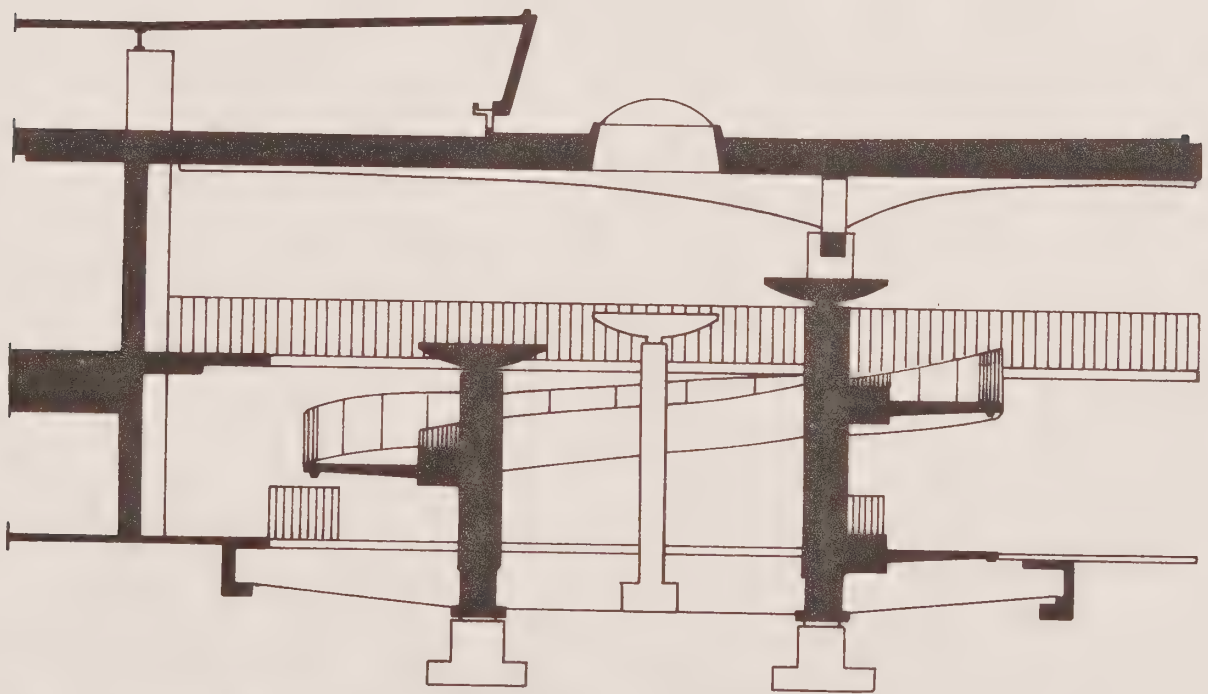
#### 4.3 PROJECT FUNDING

Improvements to the City's water system are funded primarily out of revenues generated by the sale of water to City residents. A smaller amount of money is also collected from water connection fees charged to new development based on acreage and/or number of units.

Projected City water fund revenues for the years 1980-1985 are shown in Figure 4.5. Only a part of the total revenues can be used for capital improvements with the remainder necessary for operational costs such as personnel, water purchase, power supply, and system maintenance. The amount available for capital improvements varies each year depending upon total water sales, the price of purchased water and other factors. The City's Water Division estimates that approximately 4.6 million will be available for capital improvements during the years 1980 to 1985. The Water Fund also has an existing balance as of June, 1980 of approximately 5.7 million dollars. This amount of funds is expected to be adequate for water projects currently recommended by the Water Division. This does not include funds for extensive replacement of pipes in the Downtwon area which may be necessary depending on new development proposals nor funds for correcting all fire flow deficiencies that may be identified in the system.



# PUBLIC BUILDINGS



section 5

## DEFINITIONS

### ANNEX:

A subsidiary or supplementary structure to the main service center such as a branch library.

### HELIPAD:

A small landing and takeoff area for a helicopter.

### HELIPORT:

A landing and takeoff area for a helicopter which also includes facilities for maintenance, fueling and storage of the aircraft.

### LEASE:

To convey or hold property under a contract by which one conveys real estate, equipment, or facilities for a specified term and for a specified fee.

### ROLLING STOCK:

Vehicles including cars, trucks, fire engines, street sweepers, etc.

### REVENUE SHARING:

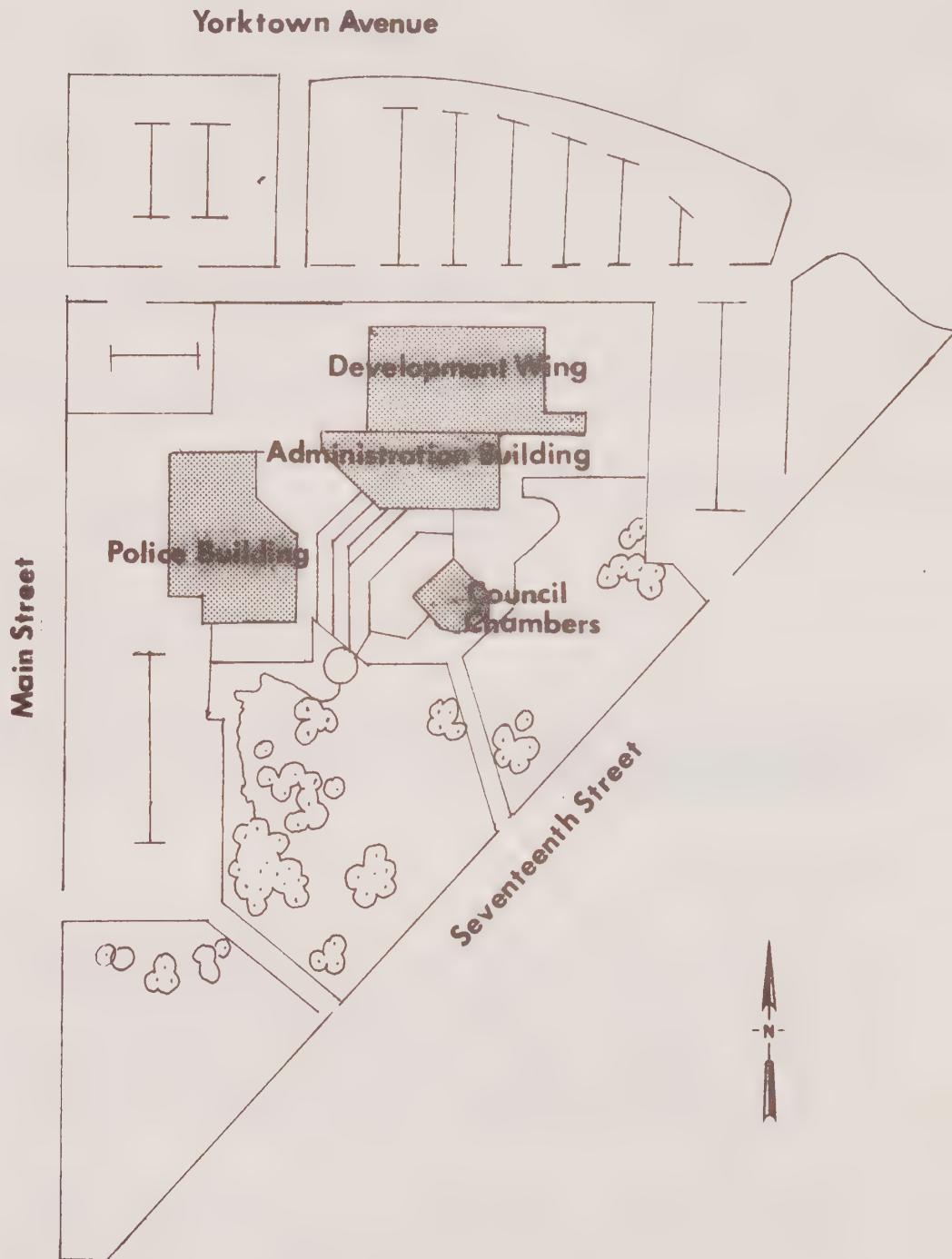
Federal revenue that is redistributed back to cities based on population, total taxes collected and relative income; the monies are not earmarked by the federal government for specific programs and can be spent by the City for a variety of purposes.

## **5. Public Buildings**

### **5.1 INTRODUCTION**

The City owns 152 structures which provide space for a variety of activities such as government meetings, City staff functions, equipment storage and operation, recreation and cultural and educational services. The City incurs considerable costs in maintaining existing structures, and the construction of additional facilities can be a major expense. It is important that the space available in existing facilities be used efficiently and that all structures be provided adequate maintenance to avoid unnecessary repairs and premature deterioration.

Appendix A. contains an inventory of City-owned buildings and structures including their location and approximate size. The majority of these structures are used for City functions and are maintained by City personnel. Several buildings, however, are leased to private entities for a variety of purposes with the tenants responsible for regular maintenance. The City also leases two buildings from other agencies for municipal use.



Source: Huntington Beach Planning Division, 1981.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## General Layout of Huntington Beach Civic Center Site

Figure 5.1

## 5.2 ANALYSIS

### 5.2.1 Civic Center

The majority of the City's legislative and administrative activities take place in a modern 15-acre Civic Center complex which consists of four buildings, a large plaza, parking areas, and landscaped grounds. (See Figure 5.1.) The complex was constructed in 1973 to replace the old Civic Center at Orange and Main Streets which was deteriorating and did not provide adequate space for governmental functions.

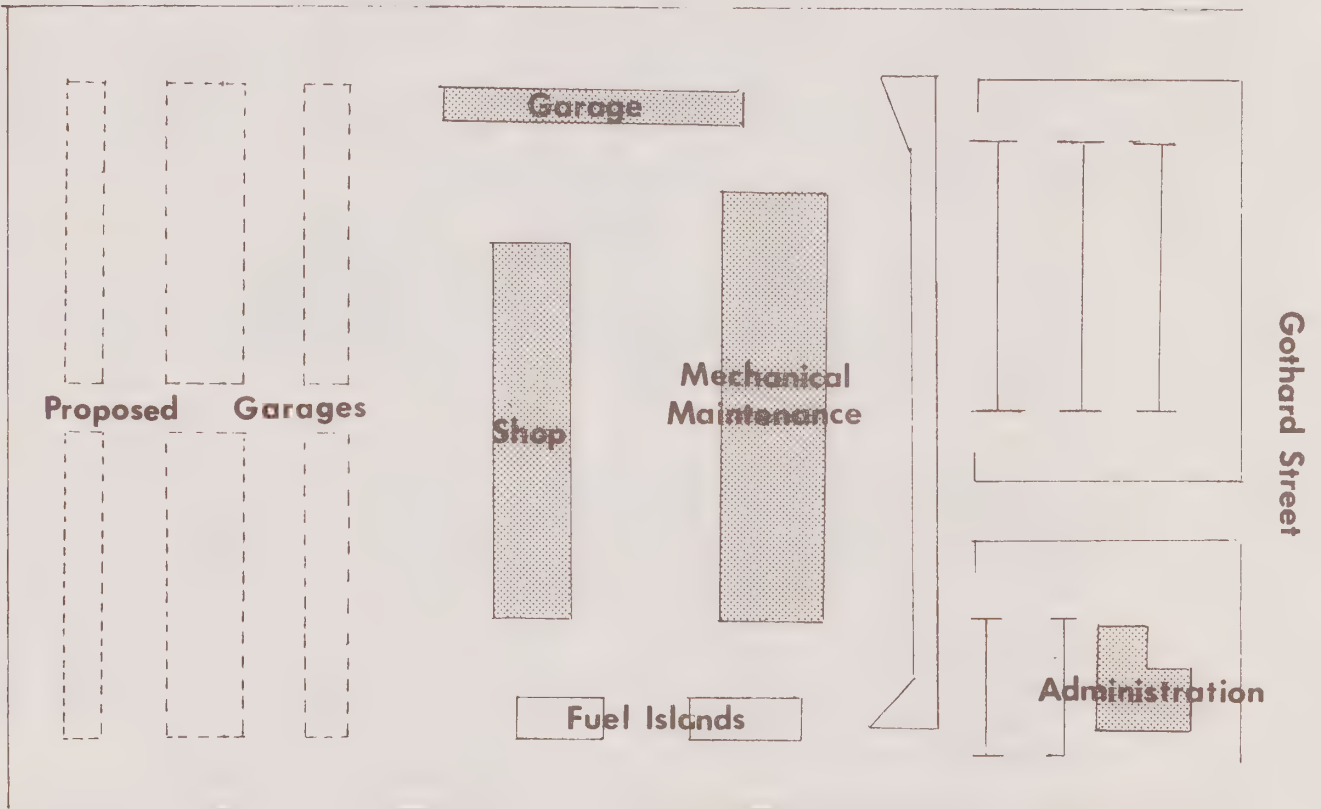
To obtain funds for construction of the Civic Center, the Huntington Beach Public Facilities Corporation was formed in 1970 to issue bonds. These bonds, in contrast to the City's general obligation bonds, do not require voter approval and are not backed by City revenues. The original issue of the corporation's bonds was \$11 million of which \$9.5 million remained outstanding as of June, 1980.

The Public Facilities Corporation leases the Civic Center to the City for an annual rental of \$854,900. The lease commenced July, 1974, and extends for thirty years or until the bonded indebtedness of the Corporation has been paid. At the conclusion of the lease agreement, title to the Civic Center will be transferred to the City.

The largest structure in the Civic Center is a five-story Administration Building containing government offices. The basement level connects to the adjacent Council Chambers and committee hearing rooms. A third building, the Development Wing, is also connected to the Administration Building. The fourth structure is a two-story Police building with jail facilities located on the basement level. A concrete plaza connecting the Police and Administration buildings is designed to resemble a large outdoor amphitheater and can be used for ceremonies, concerts, or other activities. The parking lots adjacent to the buildings contain approximately 470 parking spaces with special areas designated for visitor, employee and police parking.

Building facilities at the Civic Center are currently adequate to meet the City's needs, and the site contains space for additional structures if necessary. Several additions have been suggested by City departments to meet anticipated future needs, including a third story addition to the Police Building and a mini-garage for maintenance of vehicles. These potential additions are discussed in more detail later in this section. An expansion of the Development Wing has also been proposed in the past to provide space for all development permit counters (building, planning, public works) on one floor. The need for this extension has not been clearly established.

Parking facilities for the Civic Center are generally adequate. Several factors could contribute to the overloading of these parking lots in the future, however, such as increased use of the Council Chambers and meeting rooms by outside agencies during the day and increased numbers of City employees. Residential development of adjacent vacant lands may also eliminate parking spaces on local streets currently used for overflow employee parking. The City may wish to consider expanding its parking facilities in the future. Increased carpooling by City employees could help mitigate future parking needs.



Source: Huntington Beach Planning Division, 1981.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## General Layout Of Huntington Beach City Yard

Figure 5.2

## 5.2.2 Public Works Maintenance Facilities

### City Yard

The City Yard, also called the Municipal Yard or the Corporation Yard, was constructed in 1973. It is located on Gothard Street north of Slater Avenue and functions as the central maintenance, repair, and storage facility for City vehicles, equipment, and materials. (See Figure 5.2.)

Facilities at the Yard include: (1) an administration building providing office space and facilities for emergency communications; (2) a mechanical maintenance building providing space for welding, machinery, street sweeper repair, vehicle washing, light and heavy vehicle maintenance, and storage of light tools, parts and paint; (3) a shop building housing personnel and equipment for sign painting and maintenance, carpentry, tree maintenance, sewer maintenance, plumbing, masonry, and supply storage; (4) two fuel islands; and (5) a garage providing storage for two paint operations and 16 vehicles.

According to the Public Works Department, the work space in the mechanical maintenance building is underutilized and could accommodate additional activity. The utilization of this maintenance and repair facility could be increased by shifts working additional daily hours or days of the week.

The Public Works Department has identified a need for additional covered storage space for equipment and supplies at the City Yard. The absence of such space requires that equipment be left outside where it is exposed to the elements and subject to rust and corrosion. One 7200-square foot storage building was completed in 1980 at a cost of approximately \$275,000. Six additional buildings will be needed as soon as possible. These include a carport/warehouse facility estimated to cost approximately \$450,000, three carports estimated to cost \$275,000 each, and two carports estimated to cost \$350,000 each.

The addition of seven new buildings at the City Yard, however, will displace outside storage space. When the additional buildings are constructed an alternate outdoor storage space may have to be rented or acquired by the City.

### Parks Maintenance Yard

The City's park maintenance yard is located on Gothard Street south of Slater Avenue and functions as the central facility for landscaping maintenance for all City parks, streets, public facilities and public rights-of-way. The site currently contains three older buildings (including a farm house and a recreation room) which have been converted into offices and maintenance and storage facilities. The free clinic located in the old Downtown Civic Center site will be relocated to the park maintenance yard in 1981 and used for additional office space.

The Public Works Department has identified the need for a new building to replace the older converted facilities. Approximately 7,000 square feet of space is desired for offices and storage of maintenance equipment. Cost of the new facility is estimated at \$600,000.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## Current Fire Stations

Figure 5.3

### 5.2.3 Fire Facilities

Figure 5.3 shows the location of the City's fire facilities including seven fire stations, the Lake Street maintenance garage which serves both fire and police vehicles, and the Joint Powers Training Center. The existing Lake Street Fire Station and the maintenance garage have been declared unsafe under the City's 1979 earthquake ordinance and will be abandoned. The Fire Station will be rebuilt at 530 Lake Street at a cost of approximately \$900,000. Construction is expected to be complete by 1982. The maintenance garage will not be relocated to the new Lake Street site. Alternative locations for this facility are discussed later in this section.

A fire station consists of a large apparatus room for the fire-fighting vehicles and dormitory, kitchen, dining, and exercise facilities for the firemen. The City's fire stations are generally in good condition and adequate to house current levels of personnel and equipment. The Gothard, Magnolia, Murdy, Warner, and proposed Lake Stations are large enough to accommodate additional fire trucks and staff if necessary. The Bushard and Heil Stations would experience some overcrowding of dormitory facilities if personnel were added.

The Joint Powers Training Facility located on Gothard Street north of Ellis Avenue, is a modern structure containing a Fire Operations (Communications) Center and a Training Center. It was constructed jointly by the four cities of Huntington Beach, Fountain Valley, Seal Beach, and Westminster to coordinate dispatching of fire-fighting units and training of personnel. Under a 1973 joint powers agreement, all fire calls for the four cities are received by computer at the communications center, which dispatches the closest fire-fighting units regardless of City boundaries. Fire-fighting personnel from the four cities receive training at the training center, which contains classrooms, fire-fighting equipment and a laboratory. The Center also contains a simulator room in which the responses and attack plans of fire-fighting personnel are tested against the projected image of a fire with conditions controlled by a programmer. The modern communications system and training equipment at the Joint Powers Facility are adequate for the needs of the four cities.

The location of fire stations defines the basic fire protection coverage of any area within the City. Of prime importance is response time, which is basically a function of the distance from the fire station to the fire location and the average speed of travel by fire apparatus. The Fire Department's goal is at least 90 percent of the time to reach the scene of a fire within five minutes after receiving a call. The current number and location of fire stations, along with the Joint Powers Agreement, generally can provide this level of service.

There are two areas of the City where response times are frequently longer than the five minute response goal of the Fire Department. These are the northwest section of Huntington Harbour and, to a lesser degree, the area between Edwards and Goldenwest Streets, just north of the County's Bolsa Chica lowlands.

These deficiencies could be eliminated by the construction of two new fire stations, one located north of the Bolsa Chica and one located at Graham Street and Edinger Avenue to replace the existing Heil Station. The cost of providing the Bolsa Chica station is estimated at \$1.25 million. The Graham Street station (to replace the Heil Station) could be provided at slightly less cost, \$900,000, since the City already owns a site at the desired location.

At the present time, the deficiencies are not serious enough to justify construction of either facility. The Heil Street Station will not be relocated northward without construction of the Bolsa Chica Station since this would further reduce coverage to a deficient area. The need for the Bolsa Chica Station depends upon the future development plans for the lowlands which are now in the jurisdiction of the County of Orange. Options for the Bolsa Chica range from complete preservation as a wetland to dense development as a residential-oriented marina. If the northeastern section of the Bolsa Chica is extensively developed and is annexed by the City, then a new fire station will be required. At this time the Heil Station could also be relocated to the north.

If a large number of high rise buildings are constructed in the City's Downtown or other location, additional personnel and equipment may be required. These additions, however, could most likely be accommodated at the City's existing fire stations.

As discussed previously new facilities will be is needed to service fire and police vehicles that are currently serviced at the Lake Street Maintenance Garage. Alternative location for these facilities are being considered by the City. The most likely solution at this time is to provide special facilities at the City Yard in the existing mechanical maintenance building. Modification to the mechanical maintenance building to serve fire and police vehicles will cost approximately \$78,000.

#### 5.2.4 Police Facilities

Capital facilities associated with City police activities include the police station, the jail, parking facilities, a helipad, heliport facilities, and a maintenance garage.

As discussed previously, the police station is a two-story structure with a third basement level located in the Civic Center complex at Main Street and Yorktown Avenue. The two upper levels provide space for a main public service area, records storage, traffic bureau, investigative division, administrative offices and other activities. The basement level contains jail facilities, an emergency operations center, the police library, and an exercise room. The building is designed to accommodate a third story.

According to the Police Department, the Police Station at the Civic Center is adequate for existing levels of activity; however, the Investigation Division on the second floor is slightly crowded. The Department foresees the need for additional police personnel as the City's population increases and recommends that a third story be added to the station within the next five years to provide required working space. The approximate cost of adding this third story is \$1.36 million.

Police vehicles are serviced at the Lake Street Maintenance Garage which is also used for maintenance of firefighting vehicles. The status of this garage and the need for a new maintenance facility is discussed in Section 5.2.3, Fire Facilities.

The City utilizes three helicopters for police patrol. A helistop, located on the roof of the Civic Center's Administration Building, can be used for brief stops, but does not provide necessary refueling, storage and maintenance facilities for the three helicopters.

The City owns a heliport with refueling and storage facilities near Gothard Street south of Talbert Avenue. Subsidence and unstable soil conditions at the site, however, have rendered it unsuitable for refueling and maintenance activities. The City is currently leasing facilities at Orange County Airport to provide these services. The helicopters must refuel frequently while in use and the regular trips to the distant airport site require considerable amounts of flight time and gasoline.

The City has recognized the need for a heliport located in or close to the City. One option is to provide refueling facilities within the City and to continue to lease maintenance and storage space at the Orange County Airport. Another alternative is to provide complete heliport facilities at one location in or close to the City. For this latter option, acquisition of three acres of land and construction of heliport facilities is necessary at an estimated cost of \$1.4 million. One likely site is the Joint Powers Training Centers and adjacent land on Gothard Street. A committee formed by the City Council has investigated alternative heliport sites including Los Alamitos Air Station, McDonnell Douglas, Kaiser Aetna industrial area, industrial properties in Westminster, an Orange County Sanitation District site and other locations. A joint venture with a private developer has also been considered. No decision has been made to date.

#### 5.2.5 Central Library and Annexes

The Huntington Beach Library and Cultural Resource Center, located on a 10-acre site overlooking Central Park was constructed in 1975 and funded under a lease arrangement with the Public Facilities Corporation. It is a modern facility capable of holding 350,000 books, magazines, cassettes and other materials. It also contains reading/study areas, a children's center, a large room for cultural events, a small bookstore and gift shop, administrative offices and a basement storage area. It functions as the City's main library and is centrally located to serve all residents.

The City owns three smaller library facilities, or annexes, at the following locations: Main Street/Orange Avenue, Banning Avenue/Bushard Street, and Graham Street/Edinger Avenue. These annexes are intended to be neighborhood facilities providing more casual and personalized services than the Central Library.

The Main Street Annex is located in an older structure that was formerly the City's main library. It is adjacent to the old Civic Center which will be removed to make way for a senior citizen housing and activity center. Both the Graham and Banning Street annexes are housed in small buildings that originally served as tract sales offices for residential subdivisions. The buildings were intended to serve as libraries on a temporary basis only.

The City Librarian has identified improvements which would enhance the City's library and cultural facilities. At the Central Library a need has been expressed for additional parking located adjacent to the building. Overflow parking for the library is currently accommodated by a parking lot located across Talbert Avenue. Additional parking is estimated to cost approximately \$150,000.

The existing pools and fountains both within and outside the library, are considered prohibitively costly to operate and maintain. An expenditure of approximately \$5,000 to modify and cut off some of the fountains will reduce these costs.

The Central Library was designed to permit the addition of a learning resource center (children's wing). This wing has not been constructed and the existing children's center is occupying space in the library originally intended for book storage. Construction of the learning resource center as originally planned would cost an estimated \$700,000.

The addition of a small auditorium would enhance the main library as a cultural facility by providing a space for children's programs, lectures, and other events. The existing all-purpose room, called the Talbert Room, at the library can be used for such events, however, the use of folding chairs and lack of graduated seating detract from its suitability for these functions. The cost of a 350-seat auditorium is estimated at \$700,000.

Improvements to the Talbert Room itself, such as new carpeting and interior decorating (at a cost of approximately \$20,000) might increase this facility's use by community organizations for meetings and social functions. The City Librarian also suggests that a 300-seat playhouse be constructed at the Library site, at a cost of approximately \$300,000, to provide a forum for community theatre.

The three library annexes also require capital improvements. The Main Street facility needs approximately \$100,000 worth of interior remodeling and repair. Eventually, both the Banning and Graham Street facilities could also be enlarged and upgraded.

There also exists a need for small annexes in other areas of the City to provide neighborhood library services in areas not currently served. Possible locations for additional annexes include the following areas: 1) Warner Avenue and Bolsa Chica Street, 2) Warner Avenue and Beach Boulevard, and 3) Magnolia Street and Yorktown Avenue. The cost of constructing these additional branch libraries is approximately \$180,000 each.

#### 5.2.6 Water Operations Building

Operation and maintenance of the City's water system is performed by the Water Division which is part of the Public Works Department. Water Division operations are currently housed in several City buildings including the

Water Warehouse, the City Yard and the Civic Center. The City Council has approved the construction of a Water Operations Building to consolidate the Division's activities. The building will be located at the southwest corner of Garfield Avenue and Huntington Street adjacent to the Overmyer Reservoir and will contain offices, laboratory facilities, a meter shop and telemetering equipment. The proposed 8300 square foot structure is expected to be constructed by 1981 at a total cost of approximately \$590,000.

#### 5.2.7 Central Warehouse

City departments store a variety of surplus and seasonal items in a number of City buildings, many of which were not originally designed as warehouse facilities. For example, the old City Yard is used by the Public Works Department for storage of Christmas decorations, voting booths, extra light fixtures and other miscellaneous supplies. The Community Services Department stores sporting goods, athletic equipment, craft supplies, games, old furniture and other items in the Memorial Hall located at the Old Civic Center site. (This building is scheduled to be torn down when the senior citizen housing and activity center is constructed; recreation equipment will have to be moved elsewhere.) A sheet metal building at the recently abandoned Police heliport currently houses spare helicopter parts. Other facilities being used for storage include the current City Yard, the City Gym, and the Beach Maintenance buildings.

The City is currently investigating the possibility of storing all supplies and equipment in a central warehouse. This could facilitate the purchase, receipt and distribution of supplies to all departments in a coordinated manner. A central warehouse facility of approximately 20,000 square feet in size would be desirable and could be located in the City Yard in place of some of the proposed covered equipment storage buildings. A cost estimate for including the facility in the City yard proposal is \$450,000. If constructed separately, the central warehouse could cost considerably more depending upon land and improvement costs.

#### 5.2.8 Recreation Facilities

Prior to assessing the adequacy of recreation buildings it is desirable to evaluate the recreation needs of the community. A Recreation Element to the City's General Plan is being prepared which will discuss the appropriate number and location of recreation facilities including buildings.

#### 5.2.9 Maintenance

Maintenance of City-owned buildings encompasses such activities as painting, carpentry, plumbing, repairing broken windows, electrical work, janitorial service and indoor and outdoor landscaping.

The majority of the City's 152 structures are maintained by the City. The exceptions are City-owned buildings which are leased out to private entities for various purposes. In these cases the tenants are generally responsible for providing at least indoor maintenance, although the arrangements vary according to the individual leases.

## EXISTING AND POTENTIAL CITY PUBLIC BUILDING NEEDS<sup>1</sup>

Project	Cost
Six storage buildings at City Yard (including a central warehouse)	\$1,975,000
Landscape Maintenance Building (at Park Maintenance Yard)	600,000
Lake Street Fire Station	1,039,500
Graham Street Fire Station (relocation of Heil Station)	900,000
Bolsa Chica Fire Station	1,250,000
Third story on Police Department building	1,360,000
Police Heliport	1,400,000
Modification of Mechanical Maintenance Building at City Yard (for Fire and Police vehicle maintenance)	78,000
Additional Parking for Central Library	150,000
Redesign Talbert Room at Central Library	20,000
Modify existing pools at Central Library	100,000
Remodel Main Street Library Annex	100,000
Construct 350-seat auditorium at Central Library	700,000
Construct learning resource center at Central Library	700,000
Branch Library (Beach Boulevard and Warner Avenue)	180,000
Branch Library (Springdale Street and Warner Avenue)	180,000
Branch Library (Adams Avenue and Bushard Street)	180,000
Redesign Heil Fire Station to a Library Annex	100,000
Biology Research Lab	100,000
Construct a 300 seat playhouse at Central Library	<u>800,000</u>
Total	\$11,912,500

<sup>1</sup> This list does not include recreation buildings. These facilities will be discussed in a Recreation Element.

Source: Huntington Beach Planning Division, 1981.

Figure 5.4

Routine maintenance, when provided by the City, is generally performed by Public Works Department employees. The City's Civic Center and Central Library, however, require certain specialized services on a regular basis which are contracted out to private companies. These are: monitoring and maintenance of the heating and cooling systems, janitorial service, indoor landscaping, and elevator maintenance. Major repairs such as reroofing a building may also be contracted for on an as needed basis.

The Public Works Department is not budgeted adequately to perform major repairs or unanticipated maintenance on City Buildings. Monies are appropriated to individual Departments to cover these expenses and are shown in the budget as Maintenance, Buildings and Grounds Accounts ("440 accounts"). When utilizing their own "440" account funds, City departments have the option to "contract" either with the Public Works Department or an outside firm to perform the special maintenance activities.

According to the Public Works Department, personnel available for routine building maintenance (as well as special maintenance activities) are currently inadequate for existing need. Any addition of building space or maintenance responsibilities without an appropriate increase in maintenance personnel will further decrease service to all structures.

#### 5.2.10 Leasing Activities

The City owns several buildings which are leased to private parties. Food concessions on the Municipal Pier and in Central Park fall into this category, as does Maxwell's Restaurant located at the base of the Pier. The City also owns and leases out a residence located on a Downtown lot dedicated to the City as a future park site. Two commercial buildings and a residence located in the Downtown were acquired by the City through past redevelopment efforts and are leased to private parties. Coordination of these leasing activities is currently handled by the Community Services Department.

### 5.4 PROJECT FUNDING

The estimated cost of the building needs identified in this section exceeds \$11 million dollars as shown in Figure 5.4.

Construction of public buildings and structures can be funded through a variety of sources. The Huntington Beach Civic Center and Central Library, for example, were funded through the sale of bonds. Construction of the new Water Operations Building is being accomplished using Water Utility funds. Monies for a new Lake Street Fire Station are expected to come, in part, out of the City's Housing and Community Development (HCD) Grant.

An additional source of funding for public buildings is the revenue sharing monies that the City receives from the federal government which total approximately \$1.6 million per year.<sup>1</sup> However, the City generally transfers

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<sup>1</sup> The U.S. Congress has authorized the payment of revenue sharing monies to the City through October 1983. Beyond that date, the City may receive a greater or lesser amount (or no amount) of revenue sharing monies depending upon congressional actions.

most of its general revenue sharing monies into a capital outlay fund which is used primarily for the purchase of a wide variety of items such as automobiles, trucks, furniture, data processing equipment, office machines, carpet replacement, paint, library books and many other items.

In short, there is no one method for obtaining funds to construct public buildings. It is highly unlikely that construction of all the buildings identified in this section can be adequately funded in the near future. The City will have to establish priorities for its building needs and/or aggressively seek outside sources of funding.

# UTILITIES



section 6

## DEFINITIONS

### **CABLE TELEVISION:**

*A system of television reception in which signals from distant stations are picked up by a tall or elevated antenna and sent by cable to individual homes.*

### **FOSSIL - FUEL**

*Fuel originally derived from living things, for example, coal, oil and natural gas.*

### **QUASI - PUBLIC**

*Essentially public (as in services rendered) although under private ownership or control.*

### **SANITARY LANDFILL**

*A facility for trash and garbage disposal in which the waste is compacted and covered daily with a layer of dirt to control odors, rodents, and insects.*

### **STEAM TURBINE:**

*A rotary engine actuated by a current of steam.*

### **TRANSFER STATION (for refuse disposal):**

*A facility where many individual refuse trucks can transfer their loads into larger trucks which then travel to a sanitary landfill for ultimate disposal.*

### **UNDERGROUNDING:**

*Burying utility wires underground to eliminate unsightly poles and cables.*

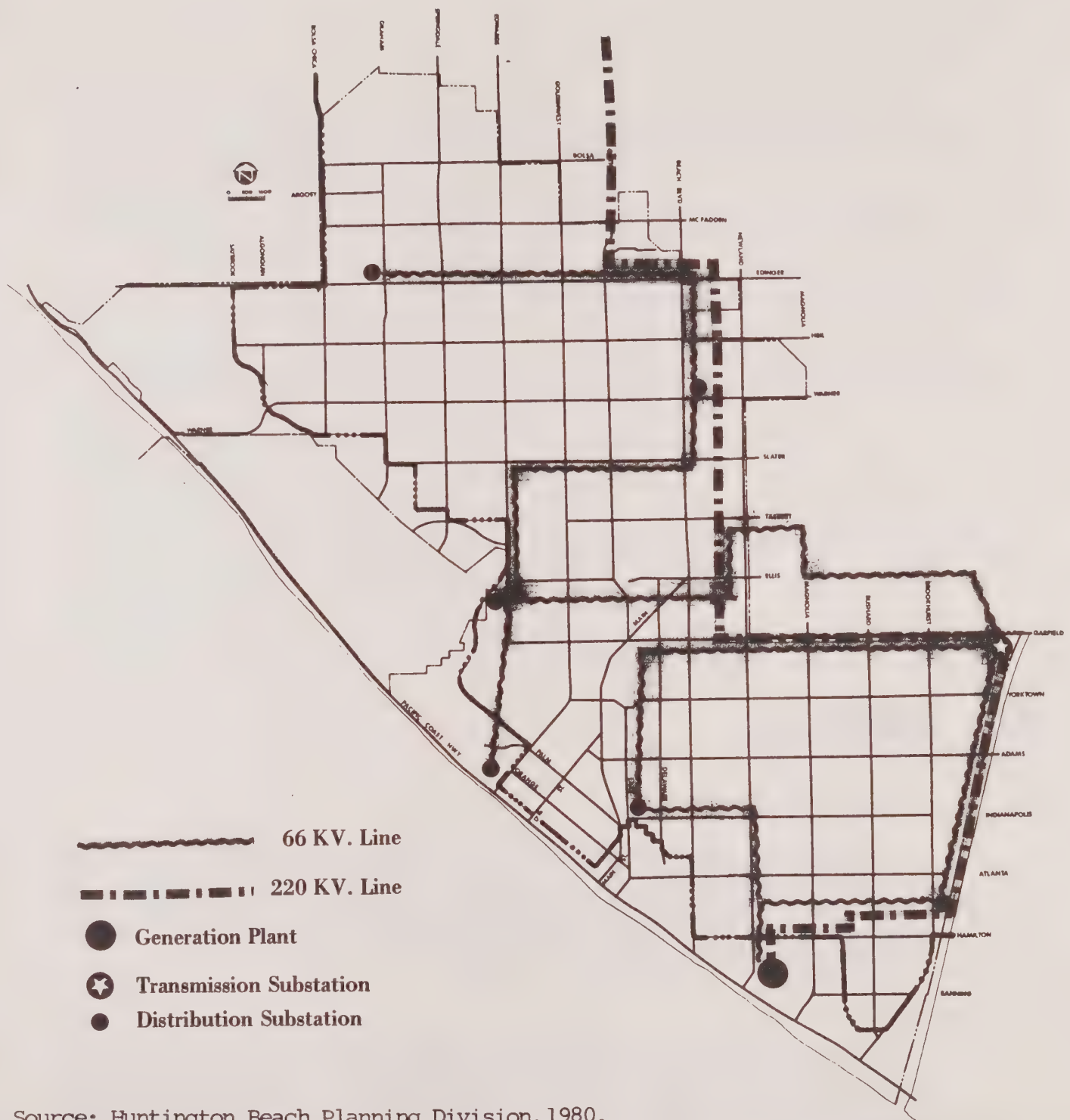
## **6. Utilities**

### **6.1 INTRODUCTION**

The City of Huntington Beach is served by a number of quasi-public utilities and private companies which provide needed services to the community. This section briefly describes the entities that provide electricity, natural gas, telephone, cable television, and refuse collection services to the City and the location of associated buildings and equipment.

#### **6.1.1 Electricity**

The Southern California Edison Company supplies electric power to the City of Huntington Beach. The primary electric facilities that Edison operates in the City are the Huntington Beach generating station, the Ellis transmission substation, and the Bolsa, Oceanview, Slater, Wave, Recovery and Hamilton distribution substations. (See Figure 6.1.) The generating station produces high voltage power which is reduced by the transmission and distribution substations to a lower voltage level for consumer use.



HUNTINGTON BEACH CALIFORNIA  
PLANNING DIVISION

## Location Of Principal Electrical Facilities In Huntington Beach

Figure 6.1

## Generating Station

The Edison generating station is located on 103 acres of Edison-owned land fronting on Pacific Coast Highway between Newland and Magnolia Streets. It is the major source of electric power in Orange County and contains four large fossil-fueled steam turbine generating units and one gas-turbine peaking unit, giving it a total generating capacity of approximately 991,000 kilowatts.<sup>1</sup> A recent proposal to construct additional major generating facilities at the site of the Huntington Beach plant was rejected by the California Energy Commission because of air quality rules in effect for this area and the site's proximity to coastal wetlands. Edison, however, continues to regard the site as potentially viable for expansion if future circumstances so warrant.

Of all the utilities located in the City, the Huntington Beach generating station has perhaps the most significant impacts on the environment. The facility releases pollutants into the atmosphere, including sulphur dioxide, oxides of nitrogen, carbon monoxide, rust particles, acid mist and dark smoke. The intake and discharge of seawater for the plant's cooling system may adversely impact water quality and marine life. Visual appearance and noise are additional impacts associated with the plant. It should be noted, however, that the generating station is currently operating within the guidelines established by all applicable air quality rules and regulations. Also, offshore marine monitoring has been conducted in accordance with specifications outlined in NPDES Permit No. CA 0001163 and administered by the California Regional Water Quality Control Board, Santa Ana Region and the data shows there has been no apparent adverse environmental impact from the operation of the station.

## Substations

The Ellis transmission substation provides electric power to the distribution substations in the City so that local electric needs can be met. The Bolsa, Slater, and Wave substations service the western portions of the city, including Huntington Harbour and the Oldtown and Townlot portions of the coastal zone. The Recovery substation specifically serves the Aminoil facilities located in the resource production area of the coastal zone. The Hamilton substation serves the southeastern portion of the City and the western portion of Costa Mesa; Oceanview substation serves the northeastern section of the City, the southern portion of Westminster, and the northwestern portion of Fountain Valley.

## Ability of Present System to Serve The City

In terms of power supply, Edison's main concern is provision of the necessary generating capacity to satisfy demand. Power supply is planned on a regional rather than specific area or city basis. An Edison Company representative indicates the Company anticipates no difficulty in providing service to present or future customers in the City; however, supply could be constrained by an unexpected fuel shortage or an increase in demand which exceeds current estimates.

The Edison generating plant in Huntington Beach is part of a 15-county network whose transmission lines are interconnected, forming a complex system which functions beyond the basic task of carrying power in one direction. If line interruptions occur, alternate routes carry the power flow. When local demand exceeds the generating capability of the Huntington Beach plant, additional capacity can be called upon from outside the County.

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<sup>1</sup> 1 Kilowatt = 1,000 watts



### 6.1.2 Natural Gas

The Southern California Gas Company supplies natural gas to the City of Huntington Beach. The primary gas facilities in the City are located underground and include gas pipelines and distribution regulator stations. (See Figure 6.3.) Over ninety percent of the natural gas used by City residents is produced in Texas. Large transmission lines carry this gas under high pressure to California where it is transmitted to individual cities through a network of high pressure lines. Distribution regulator stations eventually reduce the gas pressure to a level appropriate for consumer use.

The Gas Company has plans to locate one additional regulator station in Huntington Beach in the vicinity of Yorktown Avenue and Brookhurst Street. A company representative has indicated that, with the addition of this facility, existing major gas lines and regulator stations in the City will be adequate to meet current and expected future demand for natural gas.

### 6.1.3 Telephone

The General Telephone Company provides telephone service to the City of Huntington Beach. The Company's Orange Division Headquarters are located in the City at Slater Avenue and Gothard Street and contain a business office, service office, construction office, switching room and maintenance yard. There are also three central offices in the City housing the switching room facilities which distribute and connect individual calls. (See Figure 6.2.) Telephone poles and cables throughout the City transmit calls to individual users.

The Telephone Company's Forecast and Marketing Division evaluates monthly reports of the City's building activity and development plans which it combines with region wide economic trends to project telephone service needs. These projections are forwarded to the engineering section in the Huntington Beach office which determines the location and type of facilities such as cables and switching equipment that will be needed to provide adequate service.

### 6.1.4 Cable Television

Cable television began in the late 1940's when television salesmen in mountainous regions built large master antennas on top of mountains for better reception and extended cables downhill, often attached to trees, to connect to subscribers homes. Today, cable television is of widespread interest and has the potential to be part of an intricate communication system.

Dickinson Pacific Cablesystems is currently constructing cable television facilities in the City under a franchise agreement with the Public Cable Television Authority of which the City is a member. Construction of the City's system began in early 1980 with the first subscriber being "switched on" in July of that same year. Cablesystems anticipates that construction of the entire system will require an additional two years. In approximately 20 years, ownership of the System will revert to the City at no cost.

## GENERAL TELEPHONE COMPANY OFFICES IN HUNTINGTON BEACH

Facility	Location
Business Office	7352 Slater
Employment Service	
Construction	
Switching Room	17551 Gothard
Huntington Beach Central Office (Switching Room)	6th & Main
Warner Central Office (Switching Room)	17111 Bolsa Chica
Bushard Central Office (Switching Room)	19111 Bushard
Phone Mart	10106 Adams
Phone Mart	77 Huntington Center

SOURCE: General Telephone Company, 1981.

Figure 6.3

The most visible cable television facility located in Huntington Beach is a 100-foot T.V. antenna tower located on Talbert Avenue between Beach Boulevard and Gothard Street. This tower receives the signals of local stations in Orange and Los Angeles counties. A large, dish-shaped structure, located adjacent to the tower, receives signals from orbiting satellites to pick up stations throughout the country. These signals are processed by electronic equipment housed in a building at this same site known as the "head-end" facility and transmitted through insulated cables to individual homes. The cables are buried underground or located above ground alongside existing utility wires.

The cable television system that serves Huntington Beach provides for a 35-channel service, including a community access channel for locally generated programs. Cablesystems plans to construct a production studio at the Talbert Avenue location which will be available to community groups. The system is also being built with the ability to incorporate two-way communication programs, such as home security systems, which transmit burglar, fire or medical alarms to the appropriate emergency service.

#### 6.1.5 Refuse Collection and Disposal

The City recently signed a ten-year franchise agreement with the Rainbow Disposal Company to collect trash from residential, commercial and industrial properties in Huntington Beach. The City pays for collection service from single family, duplex, triplex and four-plex residential units with individual trash cans at a monthly rate on a per unit basis. Four-plex residential units with trash bins, multi-family residences of five or more units, and commercial and industrial units contract with Rainbow Disposal on an individual basis.

Rainbow Disposal owns and utilizes a maintenance garage and yard in Huntington Beach located at 17121 Nichols Street, east of Gothard Street, south of Warner Avenue. The City identified this site as requiring screening to improve its visual appearance. Rainbow Disposal recently aquired additional land immediately adjacent to the existing site and has plans to construct new maintenance facilities and offices, including off-street parking for refuse trucks and employees. Rainbow Disposal is also considering the development of a recycling center and a private transfer station at this same location.

Refuse collected from City residents contains many materials which can be recycled rather than discarded, such as paper, tin, aluminum and glass. Rainbow Disposal is seeking funds to develop a recycling center at its Nichols Street facility which will buy these materials separately from citizens and also contain equipment to separate these resources out of normal refuse after it has been collected. Another method is for City residents to separate materials at the household level before it is collected.

Refuse generated in the City of Huntington Beach is ultimately disposed of in the Orange County Coyote Canyon Sanitary Landfill located in the City of Irvine. This facility is almost full and is expected to close in 1983. At that time, plans call for waste to be disposed of in the Bee Canyon Landfill located adjacent to the El Toro Marine Base.

# CITY UNDERGROUND UTILITY DISTRICTS

District Number	Location	Approximate Date Completed	Approximate Cost
71-1	Goldenwest St., Slater Ave. to Taylor St.	1-1-73	\$145,000
72-1	Mansion Ave., Goldenwest to 500 feet east thereof	7-1-73	85,000
72-2	Newland St., Adams Ave. to 2000 feet southerly thereof	7-1-72	80,000
72-3	Warner Ave., Algonquin to Sims St.	12-31-72	25,500
72-4	Goldenwest St., McFadden Ave. to 1/4 mile southerly thereof	12-31-72	40,000
72-5	Magnolia St., Atlanta Ave. to Hamilton Ave.	12-31-72	75,000
73-1	Magnolia St., Atlanta Ave. to 500 feet	Dropped northerly	-----
73-2	Goldenwest St., Slater Ave. to Heil Ave.	Dropped	-----
73-3	Goldenwest St., Edinger to Bolsa Ave.	Dropped	-----
73-4	Mansion-Yorktown, 500 feet east of Main to Delaware	Estimated completion June, 1981	180,000
74-1	Warner Ave., Graham Ave. to Goldenwest St., Goldenwest St., Warner Ave. to Norma Dr.	12-31-76	550,000
75-1	Warner Ave., Goldenwest St. to 100 feet east of Gothard St.	6-30-77	80,000
78-1	Warner Ave., Graham Street to Pacific Coast Highway	Estimated completion May, 1981	1,000,000

SOURCE: City of Huntington Beach, Public Works Department, 1981.

Figure 6.4

The County operates a transfer station located in Huntington Beach on Gothard Street, south of Talbert Avenue. At this facility, many individual trucks from Huntington Beach and adjacent municipalities transfer their loads to larger county trucks which make the trip to the Coyote Canyon Landfill. Hauling larger loads to the landfill as opposed to numerous small loads is a more efficient use of personnel, trucks and fuel.

At present, facilities at the transfer station are inadequate to accommodate the total amount of wastes generated in Huntington Beach and surrounding communities. A representative from Rainbow Disposal indicated that the transfer station was accepting only 45 percent of the refuse collected in the City. Rainbow Disposal hauls the remaining 55 percent to Coyote Canyon Landfill in its own trucks. When this landfill closes in 1983, Rainbow may have to haul refuse approximately ten miles further one-way on congested arterials, to the Bee Canyon Landfill which may cause refuse collection rates to increase in Huntington Beach. The County has no plans to upgrade the transfer station in the near future.

#### 6.1.6 Undergrounding

The technology exists to bury most utility lines and cables underground to eliminate unsightly overhead wires and utility poles. The City of Huntington Beach requires that new utility lines and distribution facilities be installed underground according to the specifications outlined in Chapter 17.64 of the Municipal Code.

The City can, by ordinance and after public hearing, designate undergrounding districts in which it is unlawful to employ or operate existing poles, overhead wires and associated overhead structures after a specified date. An underground utilities coordinating committee comprised of City staff and utility representatives is responsible for recommending to Council the location, priority and completion time for conversion work within the City. The Edison Company allocates approximately \$280,000 per year to the City for undergrounding projects in these designated districts. The General Telephone Company has agreed to underground telephone wires in conjunction with Edison conversion projects. Private property owners in undergrounding districts are responsible for the costs of conversion work on their premises.

Figure 6.4 shows the City's existing utility undergrounding districts along with the date conversion work was completed and the approximate cost. Undergrounding is currently in progress in District 78-1, Warner Avenue from Graham Street to Pacific Coast Highway. Edison allocations through the year 1982 will be advanced to fund this project which will have a total cost of approximately one million dollars. Estimated completion date for this project is June, 1981.

A second undergrounding project is currently under construction along Yorktown Avenue from Main Street to Delaware Street. Conversion of overhead utilities in this district (73-4) has been coordinated with the realignment of Yorktown Avenue and 17th Street with an expected completion date of June, 1981.

In 1977, the City's Underground Utilities Coordinating Committee recommended priorities for establishing future undergrounding districts as shown in Figure 6.5. The City may wish to update these priorities and related project costs prior to establishing any additional Undergrounding Districts.

## POTENTIAL CITY UNDERGROUNDING DISTRICTS<sup>1</sup>

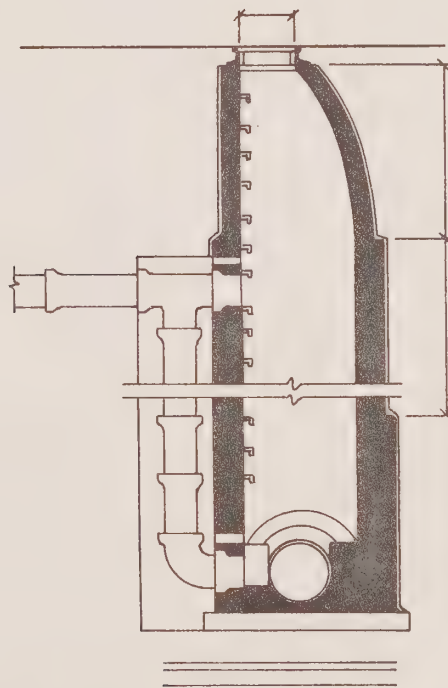
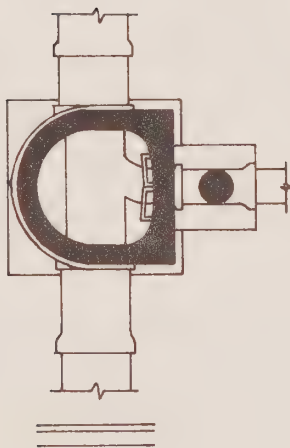
Location	Approximate Cost (in 1978 dollars)
Magnolia Street - Atlanta to Adams	\$216,000
Warner Avenue - Gothard to Beach	136,000
Yorktown - Newland to Delaware	162,000
Downtown Area bounded by Pacific Coast Highway, Orange, Third, Fifth	Indeterminate
Edinger - Beach to Goldenwest (\$200 per foot, 66 KV and 12 KV)	1,080,000

<sup>1</sup> Recommended by the City Underground Coordinating Committee - 1977.

SOURCE: City of Huntington Beach, Public Works Department, 1981.

Figure 6.5

# CONCLUDING ISSUES



section 7



## 7. Concluding Issues

This section briefly summarizes the status of the City's sewerage, drainage, water, public building and utility systems with respect to existing condition and funds available for improvements. Following this summary is a discussion of the City's ability to adequately maintain and operate its community facilities. Lastly, this section discusses the role of the Capital Improvements Program in implementing the policies contained in this Community Facilities Element.

### 7.1 Status Summary

As the preceding sections have indicated, the community facility systems that serve the City are in various states of adequacy with various amounts of funding available for improvements.

The City's sewerage system is functioning adequately to serve existing development, although a number of facilities are nearing capacity or are expected to exceed capacity at ultimate development of the General Plan. Vacant areas must be sewered before development can occur. There are also several County sewers and pump stations that have been identified as potentially undersized. City sewers in the Downtown area generally have adequate capacities but are in a deteriorated condition and may have to be replaced or relocated as existing land uses in the area are recycled.

The City expects to have adequate funds over the next five years to construct the majority of sewer projects which have been identified as necessary. This does not include improvements to Downtown area sewers which, although deteriorating, are not expected to cause major problems within the next five years.

\* \* \*

The City's drainage system is not adequate to meet the City's goal of carrying runoff volumes during 10- to 25-year storms. Numerous drainage deficiencies exist throughout the City including the Downtown area. County flood control facilities which traverse the City are also inadequate to carry desired flows. Because drainage facilities are not heavily utilized on a day-to-day basis, the problems may not be as apparent or seem as important as sewerage and water deficiencies. However, when a large rain storm does occur, inadequate drainage facilities, particularly pump stations, can result in extensive flooding of streets, property and even structures.

Projected revenues from the City's drainage fees are not expected to adequately fund needed improvements. Furthermore, state law greatly limits the ability of the City to transfer drainage fees from one district to another or from master planned to non-master planned facilities in order to fund most needed projects first.

\* \* \*

The City's water system is functioning adequately to meet the day-to-day needs of City residents. There are indications, however, that the system contains fire flow deficiencies and might not provide adequate water to fight a major fire in certain buildings or developments. The City's Downtown area contains water pipes which are corroding and are potentially undersized to serve new development.

The City expects to collect adequate monies from the sale of water to fund projects which the City's Water Division recommends to increase overall water supply and system efficiency. This includes a limited program of pipe replacement in the Downtown area but not extensive improvements which may be required if new development is intense. This also does not include projects to correct fire flow deficiencies.

\* \* \*

The City's public structures are generally adequate to meet current needs but do contain some deficiencies. Some activities are taking place in older structures not originally designed for their current use. There is also a need for more covered storage space to prevent unnecessary exposure of vehicles and equipment. Two facilities, the City's heliport and the fire/police maintenance garage, have been or will soon be vacated due to poor condition. Alternate space for these functions will have to be provided.

There is no single established source of funds for public building improvements and it is unlikely that adequate monies can be obtained in the near future to construct all the improvements and new structures suggested by City departments.

\* \* \*

Electricity, natural gas, telephone, refuse collection and cable television services for the City are all provided by outside agencies. The opportunity for direct City input into the planning and design activities of these agencies is limited. The City can, however, promote as much voluntary coordination and exchange of information between these agencies as possible to help insure adequate facilities and avoid repeated improvement projects in the same City arterials.

## 7.2 Maintenance Costs

All community facilities require regular maintenance. Pipelines must be cleaned to prevent clogging and buildup of corrosive residues. Motors which run pumps must be oiled and checked for worn parts. Structures must be cleaned, painted, reroofed and otherwise repaired.

If not adequately maintained, community facilities are likely to function improperly, break down frequently and deteriorate rapidly posing a threat to public health and safety and requiring large expenditures to correct.

Maintenance of the City's sewerage, drainage and water facilities is currently adequate to keep these systems in good repair and prevent unnecessary deterioration. As new facilities are constructed, however, it will be necessary to increase maintenance expenditures or existing levels of maintenance will be significantly reduced.

Personnel available for maintenance of the City-owned structures are not adequate to serve existing need. Any addition of building space or maintenance responsibilities without an appropriate increase in maintenance personnel will further decrease service to all structures.

As shown in Figure 7.1, over \$1.9 million was spent from the City's General Fund in fiscal year 1979/80 on maintenance of sewerage, drainage and public building facilities. This does not include maintenance of water facilities which is funded through water revenues nor maintenance of City streets and parks which were not addressed in this element. Figure 7.1 also does not include major capital outlays for new maintenance equipment and buildings since the cost of these durable items cannot meaningfully be assigned to any one year.

As Figure 7.1 also shows, maintenance expenditures for City sewerage, drainage and public building facilities represent approximately five percent of the total general fund budget. These costs have been increasing over the past five years and the City can expect this trend to continue as the cost of salaries and materials rise, as existing facilities age, and as additional new facilities are constructed.

Funds for construction of most new facilities occur as a one-time fixed cost. The cost of adequately maintaining these facilities, however, will recur year after year and most likely increase.

It is important that the City consider its ability to adequately maintain existing and proposed new facilities prior to approving construction of new facilities. Otherwise, the City may end up with extensive public works systems and structures which it cannot afford to service and repair.

In order to provide acceptable levels of maintenance for community facilities the City will have to appropriate adequate monies from the City budget or seek sources of additional funds (e.g. assessment districts).

MAINTENANCE EXPENDITURES FOR CITY SEWERAGE, DRAINAGE  
AND PUBLIC BUILDING FACILITIES - 1975 TO 1980.

FISCAL YEAR	MAINTENANCE EXPENDITURES	PERCENT CHANGE	TOTAL GENERAL FUND EXPENDITURES	PERCENT OF GENERAL FUND SPENT ON MAINTENANCE
1975/76	1,229,782	--	23,991,101	5.1
1976/77	1,559,599	26.8	27,933,705	5.6
1977/78	1,660,631	6.5	29,931,474	5.5
1978/79	1,809,146	8.9	33,594,546	5.4
1979/80	1,975,756	9.2	37,864,532	5.2

NOTE: The above expenditures do not include utility costs.

SOURCE: Huntington Beach Planning Division, 1981.

Figure 7.1

One method of ensuring that maintenance costs are considered is to include an estimate of these costs for each project listed in the City's Capital Improvements Program. Another method is to require that a "maintenance impact assessment" report be prepared for all proposed capital improvement projects prior to their review by the City Council and/or Planning Commission.

The issue of adequate maintenance for community facilities deserves a more detailed analysis than has been presented in this brief discussion. Such an analysis could include a discussion of total maintenance costs for all facilities including the street, park and water systems, a historical comparison of maintenance expenditures to the total stock of community facilities, a cost benefit analysis of increased maintenance activities, measures of maintenance costs per unit (e.g. maintenance cost per square foot of building space), and alternative sources of funds for maintenance activities.

### 7.3 Operating Costs

Once constructed, some community facilities operate with no cost to the City except for regular maintenance. Examples of such facilities include water pipes, gravity flow sewers and storm drainage catch basins. Other facilities, however, require additional costs in order to function. Pump stations, for example, require a power supply in order to operate. Building space, depending upon its use, may require heating, lighting, telephone and water services and even additional personnel in order to serve its intended function.

It is important that the City assess its ability to provide for these operating expenses as well as for maintenance costs prior to approving a new community facility. Like maintenance costs, an estimate of operating costs for each project could be listed in the City's Capital Improvements Program or included in a special report to be prepared for all proposed projects prior to their review by the City Council and/or Planning Commission.

### 7.4 Capital Improvements Program

The Capital Improvements Program (CIP) is a major tool for implementing the policies contained in this Element. A CIP is a long-range schedule of specific projects along with their estimated costs (including annual maintenance and operation) to be built or purchased by the City during the next five to ten years. In the program, all future projects are listed in order of priority. Proposed funding sources and estimates of available monies are included so that decision makers are aware of which projects the City can realistically expect to implement within the given time period.

A five-year programming period is generally considered to be most suitable. Two or three years is too short for effective programming because planning and financing of major facilities usually takes a longer period of time. Conversely, a period of seven or more years may project the program too far into the future to be of practical value.

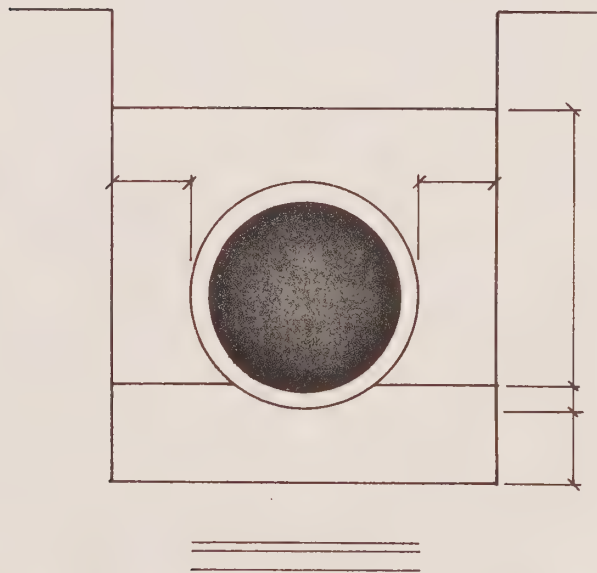
Projects listed in the CIP involve the purchase, construction or replacement of the physical assets of the community such as a civic center, fire station, library, park, parking area, playground, flood control channel, water well, sewer pipe, and street lighting system.

The benefits of preparing a CIP are several: (1) it requires departments to consider their future needs; (2) it provides a means for scheduling expenditures so that the City can maintain a sound financial position; (3) it provides for the purchase of land in advance of actual need; (4) it schedules the timing of public improvements so that the City can make economical use of personnel and equipment; and (5) it balances competing pressures for limited funds.

State law (Section 65400 of the California Government Code) requires that public works projects be reviewed for conformance with the City's General Plan. The policies and general priorities contained in this Community Facilities Element will be the basis for determining this conformance. In order to make a meaningful assessment, the exact nature and purpose of each proposed project must be clearly stated in the CIP. The entire CIP can then be judged as to whether it successfully carries out City policy as expressed in this element.

It is the intent of this Element to provide for transition from the General Plan to the CIP and the subsequent one-year City budget thus providing a vital link between long range policy and yearly City expenditures.

# POLICIES



## section 8



## **8. Policies**

This section presents the City's policies regarding the provision of community facilities. These policies are grouped around five issue areas: (1) Adequacy of Facilities, (2) Financing, (3) Siting and Design, (4) Conservation, and (5) Coordination. Implementation of these policies will occur primarily through the implementation of the City's capital improvements program. Additional implementing actions will be required, however, such as preparation of feasibility studies, revision of standards, and increased coordination with other entities.

### **8.1 ADEQUACY OF FACILITIES**

This Element has identified a number of deficiencies in the City's existing community facilities systems. Additional deficiencies may be expected to occur when the City is developed to ultimate buildout under the General Plan unless corrective actions are taken. The following policies state the City's intent to correct existing deficiencies where funding permits and to ensure that new development is adequately served.

1. Promote the provision of adequate community facilities within the City of Huntington Beach.
2. Pursue funding for projects to correct existing deficiencies in community facility systems.

3. Prior to issuance of a development entitlement, the City shall make the finding that adequate services can be provided to serve the proposed development, consistent with policies contained in the plan, at the time of occupancy.
4. Prior to constructing new community facilities, consider the impact of those facilities on annual maintenance and operating costs and staffing requirements for maintenance.

## 8.2 FINANCING

The City will not have sufficient revenues in any one year to complete all the improvements identified in this Element. Rather, these projects will have to be initiated over a period of at least five years. For some facilities, such as the City's drainage system, regular sources of revenue are not expected to be sufficient over the next five years to complete all necessary projects. In these cases, projects must be postponed or additional sources of funding must be obtained. The following policies outline the general criteria that will be used by the City to establish priorities for future projects and set forth the City's intent to pursue additional funding where necessary.

5. Use the following priorities as the primary basis for allocating sewer funds:
  - (1) Overloaded pump stations.
  - (2) Overloaded sewer pipes in developed areas.
  - (3) Improved facilities in areas of infill, where needed.
  - (4) Facilities to serve new development in primarily vacant areas.
6. Evaluate the City sewer fees annually and adjust them as required to reflect current sewer needs and construction costs.
7. Investigate the feasibility of establishing a per volume fee for handling all industrial waste water discharges in excess of 3,000 gallons per day per acre of industrial use into the City's sewerage system.
8. Use the following priorities as the primary basis for allocating drainage funds within individual districts:
  - (1) Facilities which are unable to adequately carry runoff from 10-25 year storms and pose hazards to structures.
  - (2) Facilities which are unable to carry runoff from 10-25 year storms and pose hazards only to streets and lawns.
  - (3) Facilities to serve new development in vacant areas.

9. Evaluate drainage fees annually and adjust them as required to reflect current drainage needs and construction costs.
10. Investigate additional sources of funding for drainage improvements where critical projects have been identified and it is expected that drainage fees will be inadequate.
11. Establish drainage districts and fees for areas of the City not currently in a district where such action will serve community needs.
12. Use the following priorities as the primary basis for allocating water funds:
  - (1) Maintaining adequate water supply
  - (2) Eliminating fire flow deficiencies
  - (3) Improvements to facilities serving existing development
  - (4) Reservoir capacity and withdrawal capability
  - (5) Facilities to serve new development in primarily vacant areas.
13. To minimize costs, emphasize the drilling of new wells to increase water supply where necessary as opposed to increased utilization of purchased water.
14. Pursue actions to discontinue the provision of City-owned water service to the Surfside beach area, if feasible.
15. Provide sufficient maintenance funds to protect the City's investment in its community facilities.
16. Study the feasibility of alternative methods of financing maintenance activities.

### 8.3 SITING AND DESIGN

A basic concern regarding the design and location of any component of a community facility system is that it adequately perform its intended function. There are additional concerns beyond this basic requirement, however, including the efficiency of the total system, its impact on the environment, ease of maintenance and coordination of improvements so that individual sites are not repeatedly impacted. The following policies address these concerns:

17. Coordinate the installation of community facilities with street improvements where possible.
18. Minimize repetitive open trenching of the City's arterials for the installation of community facilities.
19. Design new sewer facilities in accordance with the design criteria contained in the Lowry Sewer Study; design new drainage facilities in accordance with the design criteria contained in the L. D. King drainage study.
20. Design and route new sewers to eliminate the need for pump stations where possible.

21. Where feasible, utilize natural overland flows, open channels and swale routings as preferred alignments for components of the drainage system.
22. Require that new developments in areas of known subsidence construct low flow storm drains and minimize the use of cross gutters.
23. Require that new development employ catch basins and storm drains with baffled compartments where uncontrolled drainage could damage sensitive areas.
24. Site new City buildings and facilities in areas where existing and planned land uses are compatible with the facility that is being proposed.
25. Where appropriate, consolidate and centralize City functions into a minimum number of buildings located on a minimum number of sites.
26. Incorporate energy-saving measures and devices in the design of new City buildings.
27. Avoid extending community facilities to designated or proposed open space areas when surplus capacities could encourage new development detrimental to those areas.

#### 8.4 CONSERVATION

The intent of the following policies is to prolong the life of the City's community facility systems by minimizing unnecessary exposure to the elements and encouraging efficient use.

28. Provide for adequate covered storage space to protect equipment and supplies from prolonged exposure to the outdoors.
29. Institute actions to minimize infiltration of saltwater into the City sewerage system when such problems occur.
30. Investigate the feasibility of requiring additional water conservation measures for new development to reduce waste water flow.
31. Investigate opportunities for City involvement in resource recycling activities.

#### 8.5 COORDINATION

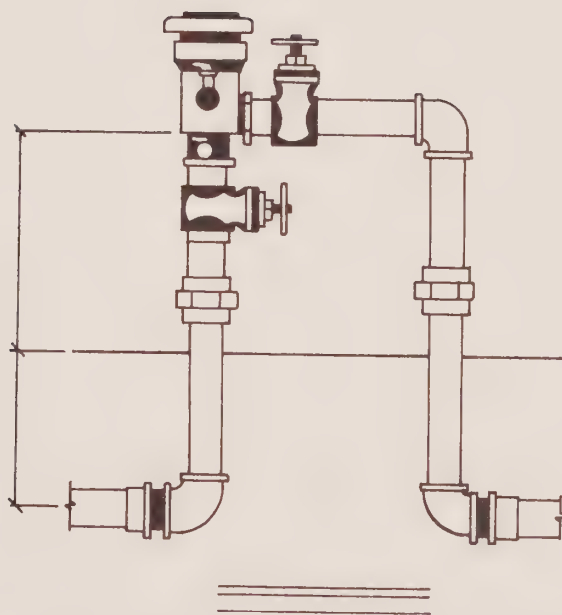
The City of Huntington Beach is served by a number of regional facilities which are the responsibility of County agencies and private utility companies. It is important that City concerns be incorporated into the planning processes of these other entities. The following policies aim to achieve proper and timely coordination between the City and other responsible agencies to ensure that local concerns are being addressed.

32. Encourage improved coordination between the City and the utility companies with respect to planned community facility projects; provide the utility companies with adequate information regarding the City's general plan.

33. Request that the utility companies (e.g., gas, electricity, telephone) provide the City with information regarding the type of improvements that will be necessary to provide service to proposed development in the City.
34. Encourage the County Sanitation Districts of Orange County to align and construct county facilities in a manner that minimizes the need for City facilities.
35. Encourage the County of Orange to allocate funds to adequately staff and equip the County's solid waste transfer station located in Huntington Beach.
36. Encourage the County to make improvements necessary to bring regional drainage facilities up to the level of a 100-year flood.
37. Support the U.S. Army Corps of Engineer's Santa Ana River improvement project.



# APPENDICES



section 9



# APPENDIX A: INVENTORY OF CITY-OWNED STRUCTURES - 1981.

Building	Location	Square Footage	Comments
<u>GENERAL ADMINISTRATION AND MAINTENANCE</u>			
Civic Center	2000 Main Street	187,419	
Administrative Building and Council Chambers (excluding basement level)		(46,796)	
Development Wing		(18,602)	
Police Building (excluding jail & basement level)		(36,375)	
Basement Level (jail, meeting rooms, snack bar, tunnel)		(85,646)	
City Yard	17371 Gothard Street	67,058	
Mechanical Maintenance Building		(30,426)	
Shop Building		(23,108)	
Administration Building		(6,304)	
Building "C" Garage		(7,220)	
Park Maintenance Yard Buildings (4 buildings)	Gothard Street South of Slater Avenue	3,854	
<u>LIBRARY</u>			
Central Library	Talbert Avenue West of Gothard Street	75,000	
Banning Street Annex	Banning Avenue West of Bushard Street	3,600	
Graham Street Annex	Graham Street north of Edinger Avenue	2,500	
Main Street Annex	Main Street and Orange Avenue	8,000	

## INVENTORY OF CITY-OWNED STRUCTURES - 1981.

Building	Location	Square Footage	Comments
<u>MISCELLANEOUS</u>			
Meadowlark Airport Buildings	Meadowlark Airport	3,000	Leased to private entity.
Maxwells Restaurant	Foot of Municipal Pier	19,500	Leased to private entity; lease expires March, 1987.
Residence	2318 Huntington Street	1,430	House located on land aquired for future park site; rented on month-to-month basis to private party
Retail Store (Beach Buddies)	220 Main Street	2,000	Former site of the Southern California Water Company which the City bought in 1955; one year lease to private entity; lease expires February, 1981.
Retail Store and three-car garage (Wind & Sea Surf Shop)	520 Pacific Coast Highway	1,600	Acquired by the City for Downtown revitalization effort; three-year lease to private entity; lease expires March 1983.
Residence	520 B Pacific Coast Highway	1,800	Acquired by City for Downtown revitalization effort; leased to private entity on month to month basis.
Old Civic Center Complex	Main Street and Orange Avenue		
Memorial Hall		9,020	To be demolished; future site of senic citizens housing project.
Old City Hall (2 buildings)		10,412	To be demolished; future site of senic citizens housing project.
Old City Yard Buildings	Huntington Street and Memphis Avenue	19,000	Currently used for storage.
Police Heliport (Sheet Metal)	Gothard Street south of Talbert Avenue	9,020	Structure on unstable ground; used for storage.

# INVENTORY OF CITY-OWNED STRUCTURES - 1981.

Building	Location	Square Footage	Comments
<u>WATER FACILITIES</u>			
Water Operations Building	Garfield Ave. & Huntington Street	8,300	Under construction.
Water Warehouse	19051 Huntington	4,500	
Water Well #1	15041 Capetown	NA	
Water Well #2	15991 Springdale		
Water Well #4	14561 Springdale		
Water Well #5	8651 Warner		
Water Well #6	16221 Gothard		
Water Well #7	14561 Springdale		
Water Well Dyke	18232 Hartland		
Water Well #8	Murdy Park		
Overmyer Booster Stn.	19051 Huntington		
Overmyer Booster Stn.	19051 Huntington		
Peck Pump Stn.	14561 Springdale		
Reservoir Hill Booster Stn.	Goldenwest and Clay		

## DRAINAGE PUMP STATIONS

Adams Pump Stn.	19961 Chesapeake	500
Indianapolis Pump Stn.	9221 Indianapolis	500
Yorktown Pump Stn.	9211 Yorktown	500
Hamilton Pump Stn.	10101 Hamilton	500
Banning Pump Stn.	22011 Malibu	500
Atlanta Pump Stn.	8151 Atlanta	500
Heil Pump Stn.	7231 Heil	500
Flounder Pump Stn.	9731 Flounder	500
Marilyn Pump Stn.	6742 Marilyn	500
Meredith Pump Stn.	20192 Midland	500
Newland Pump Stn.	8612 Hamilton	500
Scenario Pump Stn.	4742 Scenario	500
Shields Pump Stn.	6252 Shields	500
Slater Pump Stn.	5250 Slater	500
Bolsa Chica Pump Stn.	18401 Springdale	900

## INVENTORY OF CITY-OWNED STRUCTURES - 1981.

Building	Location	Square Footage	Comments
<u>SEWER PUMP STATIONS</u>			
Sewer Pump Station	Graham St. S/Warner Ave. @ Kenilworth	300	
Sewer Pump Station	Humboldt Dr. & Wayfarer Ln. (J)	300	
Sewer Pump Station	Gilbert Ln. (E)	300	
Sewer Pump Station	Pacific Coast Highway (A)	300	
Sewer Pump Station	Davenport Dr. (G)	300	
Sewer Pump Station	Finisterre Dr. (F)	300	
Sewer Pump Station	PCH and Warner Ave. (B)	300	
Sewer Pump Station	Warner Ave. W/Weatherly Ln. (C)	300	
Sewer Pump Station	Warner Ave. & Edgewater Ln (D)	300	
Sewer Pump Station	Algonquin St. & Pearce St.	300	
Sewer Pump Station	Lark Ln. & Warner Ave. "Meadowlark"	300	
Sewer Pump Station	Heil Ave. & Mycroft Ln.	300	
Sewer Pump Station	Slater Ave. & Springdale St.	300	
Sewer Pump Station	Gothard St. & Ellis Ave.	300	
Sewer Pump Station	Delaware St. & Franklin	300	
Sewer Pump Station	Adams Ave. E/Brookhurst St.	300	
Sewer Pump Station	Brookhurst St. S/Atlanta Ave. @ Effingham	300	
Sewer Pump Station	Atlanta Ave. E/Beach Blvd.	300	
Sewer Pump Station	Bushard N/Adams	300	
Sewer Pump Station	Speer & Crabb Ln.	300	
Sewer Pump Station	McFadden & Dawson	300	
Sewer Pump Station	Saybrook Ln. (H)	300	
Sewer Pump Station	New Britain @ Adams	300	
Sewer Pump Station	Edwards St. & Balmoral	300	
Sewer Pump Station	Edinger Ave. & Santa Barbara Ln. (K)	300	
Sewer Pump Station	Brighton Ln. @ Shoreham Ln.	300	
Sewer Pump Station	Talbert Ave. E/S.P.R.R	300	
Sewer Pump Station	Sharkfin Ln. Tr. No. 8040	300	
Sewer Pump Station	Trinidad Ln.	300	
Sewer Pump Station	Pier 1 & 2	300	
Sewer Pump Station	Adams/Beach	300	

INVENTORY OF CITY-OWNED STRUCTURES - 1981.

Building	Location	Square Footage	Comments
<u>TOTAL</u>			
152 Buildings	City-wide	638,341	



APPENDIX B: INVENTORY OF BUILDINGS LEASED BY CITY - 1981.

Building	Location	Square Footage	Comments
Building Regional Employment Office	538 Main Street	8,000	City leases from Southern California Edison Company for CETA Program offices; lease expires March 1981.
Newland House	Beach Boulevard and Adams Avenue	2,750	House built in 1898 restored and maintained by the Huntington Beach Historical Society; leased by Signal Landmark Company and assigned to the City.



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